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THE EGYPTIAN BUILDING AND ITS PLACE IN MEDICINE.*

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I

Today's events place us among the number of American colleges, who within recent years, through restoration, have recaptured the beauty and significance of rare and historic buildings.

What old Nassau Hall is to Princeton, what the Wren Building is to William and Mary, what the Rotunda is to the University of Virginia, the Egyptian Building is to the Medical College of Virginia. It is a shrine, a sanctuary of tradition, the physical embodiment of our genius. It is not merely a material possession. It is a spiritual heritage. In a world often accused of cold materialism, with an ideology of human self-sufficiency, and an adoration of objects that can be handled and seen, there is a need for things of the spirit, if science is to do more than make life safer, longer and more comfortable.

Three hundred years ago the spot on which the Egyptian Building stands was lost in the primeval forest. Two hundred years ago William Byrd, laying out the site of Richmond a little to the east of us, viewed this location as just a wooded hill sloping toward one of the tributaries of the James. One hundred and seventy years ago the new town of Richmond cast covetous eyes on this eminence, then known as Shockoe Hill, and annexed it. One hundred and fifty years ago the surveyors of Quesney de Beaurepaire marked there the northeast corner of the future Academy Square. Ninety-five years ago the Founding Fathers of the Medical College of Virginia placed there a noble building, which was to serve as a nursery of Southern medical science for many succeeding generations.

The year was 1845. Queen Victoria had been eight years on the throne of Great Britain. James K. Polk was President of the United States. The national debt was negligible, in spite of the fact that we had just passed through our worst financial panic, and in spite of the fact that the Democrats were in the saddle. Men's minds were active over the rising tide of abolition, the Oregon Question and the annexation of Texas. War clouds were thick. Morse had just invented telegraphy. Except in literature, there was no artistic brilliance. Business, exploration and great political issues dominated the public mind. It is surprising that under such seemingly inauspicious circumstances a young medical school here in Richmond, temporarily quartered on East Main Street, operating under the charter of Hampden-Sydney College, originated and executed plans for the erection of a college building, which in conception and size eclipsed anything of its kind in the State or in neighboring states. On land purchased for $2,000, a gift of the City, and with help from the Literary Fund of the State amounting to $25,000, this feat was accomplished.

It has been said that in the conception and erection of a building, the owner may be likened unto a father, and the architect unto a mother—the one supportive, the other creative. In this instance on the paternal side, there are several individuals to be considered—six to be exact. They are well known to us all: the youthful and dynamic dean, Augustus L. Warner; John Cullen, a cultured, red faced Irishman, the fashionable doctor of his day; Lewis Webb Chamberlayne, blue blooded descendant of William Byrd; Socrates Maupin, a mild-mannered little man, who in later years acquired a great reputation in a sister institution; Richard L. Bohannan, old man of the faculty, who although only fifty-five years of age seemed like an elder statesman to his more youthful confreres; and Thomas Johnson who resigned before the completion of the project.

*An address delivered in Monumental Episcopal Church, Richmond, Va., on the occasion of the dedication of the restored Egyptian Building of the Medical College of Virginia, Founders' Day, January 16, 1940.

The selection of the architect and builder was probably the result of the following circumstances. In the spring of 1843, a group of Richmonders visited various Northern churches, seeking a model for a church to be erected here at Ninth and Grace Streets. Their model was found in St. Luke's Church, Philadelphia. Its architect, Thomas S. Stewart of Philadelphia was chosen to plan and erect the new building in Richmond, the now historic St. Paul's Church, whose 208 foot spire could once easily be seen from here. Two of the five members of the faculty of the young medical school were pew owners in the new church, and one of them gave $500 toward its construction. These facts seem to explain why Stewart became the architect of the Egyptian Building.

Why did Mr. Stewart choose Egyptian architecture for the new medical college building? The editor of the *Richmond Times and Compiler* (1845) was of the opinion that "there is a mystery in the spirit of the Egyptian style of Architecture, which makes it to our taste singularly appropriate for this temple of the medical science."

Perhaps Mr. Stewart was one of the forerunners of the revolt from the classical style of the period, a revolt that was soon to give us the decadent forms now often distasteful to us. Perhaps Mr. Stewart identified himself with those in the young nation seeking to "achieve an individualistic style". Perhaps, as Professor Frank J. Roos, Jr., of Ohio State University has also suggested, he was influenced like others by publications then current in this country, which were one of the results of the Napoleonic campaigns in Egypt. It may be that architectural drawings of some Egyptian temple, a work something like Stewart and Revett's *Antiquities of Athens*, came into his possession, and with it the temptation to try his hand at something new. In any event, Egyptian architecture it was. Professor Roos has listed thirty-odd other examples of Egyptian architecture in this country dating from about this time. In his opinion and by general consent our building seems to be the best representative of the style in existence.

II

The years go by—fifty-five of them. The Medical College of Virginia and the Egyptian Building made Southern Medical history together, for the two were one, and all this time the activities of the College were for the most part centered here—lecture halls, laboratory, dissecting hall, museum, hospital, administrative offices, all under this one roof. The hospital boasted of gas lights and well heated rooms, advertised ward rates of four to five dollars a week, and the public was advised that "in cases of difficulty, the whole college faculty was called in consultation without additional charge." In due course of events, the snuff-taking first faculty of the Forties gave way to others: the great anatomist Jeffries Wyman; the Franco-American savant, Brown-Sequard; the artist Petticolas; the witty and myopic Dr. Taylor; Hunter McGuire. The roster of cherished names came to include also McCaw, Wellford, Gibson, Tucker, Cullen, Cunningham and Johnston. An increasing number of Southern boys took the tickets of the small faculty; attempted to evaluate their phlogistic and antiphlogistic theories and to fathom the mysteries of calomel, quinine and phlebotomy; watched operations performed without benefit of anaesthesia or asepsis; shared in the body snatching that was necessary for anatomical study; and learned some of their medicine at the bedside, but most of it by the amphitheatre method then generally in vogue in this country.

The decisive year 1853 rolled round, and the institution severed its relation with Hampden-Sydney College to become an independent medical school, prepared to compete with the three other medical colleges already in the State.

The fateful years 1861-65 arrived, and 140 seceding Southern medical students left Philadelphia and matriculated in the College. The processes of teaching and learning were thereafter accelerated to the point of conducting two sessions a year. The overworked faculty sent a stream of military surgeons into the armies of the Confederacy. The lean days of reconstruction were weathered. Then new and forceful personalities clashed, a competitive medical college was born in Richmond, and an era in the life of the old college and of this building was closed.

The years again go by, forty-seven of them. Years of growth and progress. It was probably in 1893 that, for the first time, it was clearly recognized that all the activities of a medical college could not be crowded into a building of this size. (It is now recognized that you can't get them all on several city blocks.) The period of expansion, the flowering of which we are now the admiring witnesses, began at that time. A dispensary was built. The Old Domin-

ion Hospital was organized. The faculty was augmented. Old aristocrats like anatomy, medicine, surgery, obstetrics, had to put up with and try to live on good terms with parvenue specialties, such as roentgenology, otorhinolaryngology, dermatology and pediatrics. A nursing school was organized. The departments of dentistry and pharmacy grew. Students multiplied. Precisely the same thing was going on in the competitive new school. After a decade and a half of independent existences, the two schools wisely consented to call a halt on throat cutting, and pooled their resources, giving fresh impetus to growth.

We have now come to these latter days, the days of President Sanger, the Builder. Almost over night we have a library, two nursing homes, a laundry, a central heating plant, a network of underground passages, a dormitory for men, a modern clinic building, and a hospital of which any medical school would be proud. A small medical college is being transformed, before our eyes, into a real medical center.

In all this the Egyptian Building played a silent and waiting part. Her reverenced ivy-covered walls still spake, but they spake of a college that was. Deserted by one department after another, the old building, obviously outmoded, was fast approaching useless senescence. From such a fate she has been rescued by the vision of those who control the destinies of this institution, and by the bounty of one who has made possible the restoration and remodelling we shall proudly see today.

III.

The idea seems to be abroad, among certain educators, that, due largely to our changing economic, social and political philosophy, the day of large private benefactions is past. Today we witness an excellent negation of that idea. Perhaps there is less private philanthropy now than formerly, but there is much to show that where there is a conjunction of the proper occasion and the proper man, results still follow. The occasion was here—the preservation of a century-old shrine, the reconditioning of a teaching unit of an institution which had through one hundred years turned out some of the South's most outstanding medical men.

Fortunately, the man was here also, a man of high mindedness and ready appreciation of real and enduring values. The man is Mr. Bernard M. Baruch. His generosity is gratefully acknowledged in the naming of the auditorium of the building for his father, The Simon Baruch Auditorum, and the placing of an appropriate tablet in the foyer of the building. We take pride in recalling that Simon Baruch was a graduate of this school in 1862, served as a Confederate surgeon under the immediate command of General Robert E. Lee, and later became a pioneer in hydrotherapy in this country.

This magnificent restoration, in recognition of which we are assembled here today, assures the Egyptian Building of long life and a future even more useful and honorable than her past. The building still stands for all that it formerly stood for, but its range of service has now been vastly extended.

It is well to realize, in more detail, what this restoration means. First and foremost, it has preserved in all essential points, the exterior of the building, just as it was originally placed here. There is the same size and massiveness—the same fluted pillars, with palm leaves decorating their bell-shaped capitals; the same plain deep cornice, the wide unbroken spaces; the same symbolic ornamentations—winged discs, serpents, mummy cases and obelisks.

For the interior, the restoration has done what the original architect had neither the means nor the opportunity of attempting. The auditorium and foyer are now what they should be—Egyptian. In this beautiful hall, in the years to come, much of the work, as well as the more cultural activities, of the College will center, giving to the Egyptian Building an importance it must certainly have lost had not this restoration staid the heavy hand of time.

The restoration takes a more practical turn in the remodelling which has been effected, on the three floors above the auditorium. Here two of what should be the best equipped departments in the College will be housed, the basic and essential departments of pathology and bacteriology. The offices, laboratories, class rooms that have been placed at their disposal offer physical opportunities for research and teaching unexcelled in this part of the country. William Welch, himself a distinguished professor of these disciplines, once warned: "A medical college may have . . . palatial buildings, modern laboratories, and still the breath of life may not be in it. The vitalizing principle is in the men—both teachers and students—who work within its walls." It is a well recognized principle that higher standards of medical education can only be set and

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maintained where adequate endowment relieves such schools of the necessity of accepting students in excess of their facilities to teach them. Departments such as these, however handsomely housed, cannot flourish, cannot produce results, without means, without endowment. It is devoutly to be hoped that an Institute of Pathology and Bacteriology, the physical layout of which is now provided, may shortly be realized through the generosity and farsightedness of someone appreciative of the service to humanity and science both of these departments are prepared to render.

The meaning of the restoration consists, not only in these tangible things, but in the real and lasting spiritual force the Egyptian Building is destined to prove in the future of the college. To some, this building will serve as a constant reminder of an ancient civilization upon the banks of the Nile; of Imhotep, the Egyptian prototype of Aesculapius, and the first distinct figure of a medical man to appear upon the horizon of history; of Egyptian medicine itself, whose high order we have only recently come to recognize, but which was long ago acclaimed by the ancient world, the Greek bard, Homer, singing,

> There "dwell physicians who excell in skill
> All other men, for they are of the race of Paeon."

To others, this building, in its very suggestion of permanence and solidity, will typify a scholarship which digs deep, lays wide foundations and rears superstructures of learning of true and enduring value.

Whatever its meaning, in the words of the historian Macaulay, I hazard the prediction, that when much that we see about us today has perished, the influence and the glory of this old building "will still survive, fresh in eternal youth, exempt from mutability and decay", as immortal as the intellectual principles that were responsible for its creation a century ago and for its preservation today.

828 West Franklin Street.

THE MANAGEMENT OF THE PATIENT WITH RECURRING "COLDS", GRIPPE, AND INFLUENZA.*

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The terms recurring "colds", grippe and influenza are used interchangeably here because of the loose and overlapping interpretations assigned them by physicians and laymen. But any one of the three conditions can cause a period of inactivity with a possibility of delayed recovery. They too often lead to such complications as pneumonia, sinus infections, ear infections and other well known sequelae. And in cases where the patient already has some chronic condition, any one of this triad may cause this disability to become worse or at times uncontrollable.

In this discussion I wish to specify the patient with recurring attacks of "colds", grippe or influenza rather than those with an occasional sporadic attack. Patients in this group anticipate with dread and fear and usually actually experience each year with alarming regularity one or more attacks of "colds", grippe or influenza, these attacks being characteristic and typical in each individual case. Histories of these patients show that some patients suffer the same complication following each attack of "cold", grippe or influenza; other cases may show a variation or absence of complications; also, at times an existing chronic condition such as diabetes or an impaired cardiac reserve does not recover to the former level but is worse permanently after each attack.

Despite the certain inconvenience and possible danger these patients regularly undergo, they do not always have the detailed attention their cases justify. This is often because the patient can not see the gravity of his case and therefore he is not willing to spend enough time with his physician to enable him to make a thorough study; or he is unwilling to pay the fees entailed by a long series of visits to his doctor's office. On the other hand, the physician with many professional, civic, and family duties who is seeing each day many patients extremely ill may lose sight of the regularity with which some patients have recurring attacks of "colds", grippe or influenza. Another factor which has been a deterrent is that treatment can only be outlined along broad general principles; procedure cannot be planned with cer-

*Read before the seventieth annual session of the Medical Society of Virginia, at Richmond, October 3-5, 1939.

tainty, cannot be correlated by mechanical devices, and results cannot be promised. So the physician hesitates to suggest the requisite treatment and too quickly lets the proposals slip from his mind until they are recalled when the patient has another attack.

For these or other reasons these patients frequently resort to self-medication. Because vitamins, or regulation of the humidity in living quarters, or vaccines by mouth or subcutaneously were successful in the case of a friend, a patient may buy these products and administer them to himself, or request his physician to do so without any reasonable knowledge that their conditions are the same. Alluring advertisements make recovery sound sure and merely a matter of taking the preparation being publicized. Wholesale self-medication with any substance such as vitamins and cold vaccines by mouth, which are now so popular, should be whole-heartedly condemned because, while some of these preparations may not actually be harmful in themselves, they create a false sense of security and keep the patient from seeking competent professional advice for his individual case.

It cannot be said too often or too emphatically that each case of recurring "colds", grippe or influenza is individual and distinct and any wholesale method of management must be avoided. The physician must keep a broad point of view and employ an elastic procedure. There are many factors in management and none can be constantly applied or permanently discarded.

A written detailed history and progress notes are of paramount importance in each case. Then the original statements of the patient may be carefully reviewed when needed and the facts, added as he is seen each time, can be analyzed and all finally correlated. The original history will not always reveal any salient facts. At times it will contain definite impressions of the patient about causes and effects in connection with his condition. These statements of the patient may be significant or they may be incorrect conclusions, but the physician must weigh their value carefully. The patient should be seen at regular intervals and notes on his progress should be recorded. He should also be seen at the time of or immediately following each attack and a detailed account taken of the events previous to the attack.

Chilling or the lowering of the patient's body temperature is in certain cases a definite exciting factor. One of my patients gave a history of having had annually frequent severe colds over a period of twenty-five years. These colds were characterized in the beginning by an acute upper respiratory tract infection and in the second stage by an acute bronchitis. The history did not give any leads concerning predisposing factors. He was given empirically pre-seasonal cold vaccine with a remarkable lessening of the attacks. In three years of observation in which yearly pre-seasonal cold vaccine was given, the patient had two severe colds exactly the same as his previous colds. Each was preceded by the same factor: during a cool spell the patient went to bed in a house that was damp and unheated and was extremely chilly all night. Since the patient has been warned against chilling, colds have not occurred. This is one of many cases where prevention of chilling or lowering the body temperature is an essential part of management.

Fatigue also gives many clinical examples of its ability to act as an exciting factor in cases of recurring "colds", grippe or influenza. Mental and physical fatigue cannot be eliminated from the patient's life but they usually can be controlled. Helping a patient avoid mental fatigue is much easier talked about than actually accomplished; but when the patient understands the necessity of cooperating in the effort to control it, and, with practical advice about adequate rest and diversification, much can be accomplished.

It is a recognized fact that many germs increase in virulence when passed from person to person. Since the histories of many patients in the group under discussion show that their resistance to a certain type or types of infection is not high, it is most urgent that they be segregated from organisms with increased virulence. Therefore, close contact of these patients with other people suffering from "colds", grippe or influenza should be avoided whenever possible.

In certain cases there is repeated evidence that an incorrect amount of moisture in the air at home or at the place of work is the precipitating or exciting factor. A too dry atmosphere may be as injurious to some as dampness is to others. Once the atmosphere is proven to be lacking in moisture by a humidity guage, it is usually easy to bring it up to the required level.

A certain number of patients have well-defined brief warning symptoms of an approaching attack. These symptoms are usually distinctive to each case but have occurred frequently enough that they can be

tied to as actual signs of the onset of an attack. In some cases where there were definite indications that an attack was approaching I have given empirically, and with occasional success, foreign protein injections. Two c.c. of Omnadin (Winthrop) were given intramuscularly as soon as the symptoms presented themselves, followed by two more doses at twelve hour intervals and two more doses at twenty-four hour intervals, making a total of five doses on the average. I must emphasize that the Omnadin was first given empirically in those cases with reliable warning symptoms of an approaching attack and was repeated where it proved efficacious. These results are the unusual rather than the usual. I have seen two other patients a number of times with typical symptoms of an approaching recurring type of "cold" which was apparently aborted each time by small doses, 0.1 c.c., of standard stock catarrhalis combined vaccine.

Many physicians are not favorably impressed by the results obtained from the use of cold vaccine given subcutaneously as a preventive of recurring "common colds." I feel that in selected cases, if given early in the fall, or well before the cold season of the patient being treated, small doses of stock catarrhalis combined vaccine, weekly spaced, the amount of the dose being fixed to suit each individual, give results good enough to justify careful consideration.

In certain cases the removal of diseased tonsils and abnormal adenoid tissue has cleared these patients of their recurring symptoms. The problem is selecting the cases where this procedure is justified. It has been my policy to be careful not to make any promises but to base the request for the removal upon the opinion of a consultant that the tissue involved was diseased and should be removed from a general hygienic standpoint with the hope that it would also help the recurring condition. I have seen cases in which it was the deciding factor in the patient's improvement, and I have also seen cases in which it seemed to make little or no difference.

Quinine in continuous small daily doses has been recommended as a preventive measure in the recurring conditions which I am discussing. I have not had enough experience to form an opinion of this type of treatment; but one of my patients who had had recurring influenza for many years and who had used many types of preventive treatment without effect, went through the winter of 1938 without an attack. He was taking one grain of quinine sulfate daily.

The above are some of the many possibilities in the management of patients with recurring "colds", grippe or influenza. Of course, management of any condition which involves the resistance of a patient against bacteria or virus must consider the patient as a whole and provide an adequate, well-balanced diet with reasonable attention to vitamins and minerals, and must also give reasonable attention to proper elimination.

In conclusion, it seems to me that the very vagueness of the interpretations applied to the condition of recurring "colds", grippe or influenza, and, the generalities with which treatment must be outlined offer a challenge to physicians. I feel that these cases require medical attention because each case is an individual problem in management. And, finally, these cases deserve the utmost consideration because patients may be saved a great deal of inconvenience, discomfort and misery; because chronic conditions may be spared further damage and serious complications may be avoided.

DISCUSSION

DR. T. DEWEY DAVIS, Richmond: I admire Dr. Hamilton for selecting this subject to present. I know of nothing that is harder to put over than a discussion of respiratory infection. From the standpoint of importance, of course, we probably ought to discuss them all the time because there is no cause of morbidity which ranks ahead of this group of diseases.

When we talk about respiratory diseases we are immediately at sea, because we do not know what we are talking about. We say the patient has a cold because his fever does not go up much. If it goes up, why he has grippe; if it goes away up he has flu.

A lot of experimental work has been done on respiratory diseases. It has been proved that a great many of them are due to filterable viruses. That a filterable virus may initiate the process and the normal respiratory bacteria jump in and continue it. With all this in view, it is difficult to see how any sort of vaccine injection can accomplish much. I imagine most of you, of course, have seen the work that has come from students of this subject at the University of Minnesota, in which they have given stock catarrhal vaccines. Incidentally I might say that if we are going to use any at all it looks to me as if the stock vaccines would be far superior to any autogenous growths that we might get from the throat, because of the changing flora in bacterial growth in the throat. It looks to me as if we might have a better chance of catching the offending organism with the stock vaccine. These investigators have shown pretty conclusively that, at least in their locality and in their hands with the

administration of these catarrhal vaccines by any method (subcutaneously, in varying doses, and by mouth), they have gotten practically nowhere in attempting to control respiratory infection.

Another interesting aspect of the situation that has always intrigued me is the fact that there are some families that are particularly susceptible to respiratory infection, and those families are also susceptible to allergic manifestations. I can think off hand of three in my own practice in which I have been fighting respiratory infections for years. It is a difficult problem to prove, but I wonder if they have not got something wrong with their bacterial immunity reaction, as they have with their allergic states—pollen, and so on. It seems to me that is the possible answer to some of the cases. In other words, they get an immunity response after a cold, just as in the average individual, but the immunity response disappears very quickly. That is a thought that has intrigued me a good deal, but I do not know just how to get at it.

Finally, Dr. Hamilton has discussed the question of focal enucleations in the treatment of colds. I think we have to keep this in mind. Drain the sinuses if necessary. Use X-ray treatment to get rid of residuals. There, again, we have to keep allergic states in mind, because many of these fall colds may be due to blocking of the sinuses from hay fever. I am certainly convinced that it does the individual very little good and probably considerable harm to get his nose squirted out or packed once a day or twice a day in the presence of acute respiratory infection.

DR. FRANKLIN M. HANGER, New York City: This subject has interested me since 1920, and I am just as baffled by the problems of the common cold now as I was then—in fact, more so. There is one important thing which has been established in relation to this disease. There is certainly a virus factor in the common cold. I have seen Dr. Dochez's experiments and have seen this virus grown; I have seen it put in the noses of individuals and have seen them get colds. The time when we can study the common cold best is in the autumn, right now, when our mucous membranes are healthy. When we see individuals contract a cold from others during this season we can assume a virus is the etiological agent. Later in the winter the problem becomes very complex.

I was very much interested in the allergic idea, because I carried out some experiments a few years ago which show the relationship of infection to tissue allergy. I immunized some rabbits to a virulent organism, so if that organism was injected into the skin of those rabbits it produced no lesion at all. The animals were highly immune. Then I took the same rabbits and sensitized them to egg white, so if I injected egg into the skin a localized urticarial edema developed. Then if I injected the bacteria to which the animals were immune into that wheal on the skin, a severe infection developed. This infection spread only to the limits of the wheal, but would not extend into healthy tissue. In other words, when tissues are reacting to an antigen they lose the specific capacity to resist bacterial invasion. I think this may bear on the cold problem. Allergic reactions in the nose may affect profoundly the natural resistance of the tissues to viruses and bacteria.

We must all agree with Dr. Hamilton's premise that the reaction within the mucous membranes is an important factor, especially in the recurrent type of cold. I believe most of us carry the cold virus and virulent bacteria in our upper respiratory tracts. These may remain quiescent until chilling, vaso-motor reactions, fatigue, and emotional upsets, etc., disturb local resistance permitting infection to take place. Each individual reacts differently to these disturbances and at times the physician can do quite a bit after studying the patient as a whole to modify these reactions.

DR. HAMILTON, closing the discussion: I want to thank both Dr. Davis and Dr. Hanger for their remarks.

I stand out among the few in using cold vaccine in certain cases. I do not recommend it as any cure-all and I do not think you can promise the patient anything definite at all. The dosage which I have used has been decidedly different from the dosage as given in the literature or on the package. Therefore, I shall go into that for just a moment. In patients who have had severe colds I start with as small a dose as 0.01 c.c. of a regular stock vaccine. I have three people in my practice to whom so far this year the largest dose I have been able to give, according to my own standards is 0.06 c.c. I do not increase the dose if the local reaction is over the size of a dollar. I know a good many feel that the local reaction has nothing to do with what the organism is doing inside. I do not increase the dose if there is any general reaction in the patient—fever, chill, a little cold, or anything else. During a cold, if one occurs while the treatment is going on, I decrease the vaccine by nine-tenth, or to one-tenth of the dose.

I do not feel that we are doing anything but empirical treatment. Personally, I feel that the cold is initiated by the virus, but secondary organisms come in; and if the secondary invaders can be warded off by teaching the body, if such a thing be possible, to defend itself against these organisms, it is a help. My patients feel that this is so in a great many cases, and so do I.

The smallest number of doses I have ever given in any case was ten doses, starting in August with one-tenth c.c., getting up to 1 c.c. The cases frequently get twenty doses and some run up as high as thirty doses, continuing treatment all during the winter.

I was very much interested in Dr. Davis' point and certainly agree that allergy has a great deal to do with it in some of these people.

I was interested, too, in Dr. Hanger's sensitization with egg white. For some reason some people are sensitive to these viruses or the secondary invaders and get colds.

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THE OPERABILITY OF GASTRIC MALIGNANCY.*

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Washington, D. C.

In the days before the full development of roentgenologic diagnosis, gastric cancer was suspected only, and the diagnosis postively made by exploratory operation, or later by the development of symptoms and conditions beyond medical aid. As we all know, many abdominal operations were performed in the first part of this century to confirm or eliminate gastric malignancy. Because of the hopelessness of the cure of gastric cancer when it had reached the stage to cause serious symptoms or a palpable mass, the surgeons, with the consent of the family physicians and other consultants, early urged abdominal exploration to confirm or rule out gastric cancer.

In the past quarter of a century, competent roentgenologists have developed their diagnostic skill in the diagnosis of gastric lesions beyond that of all other physicians. There are few more embarrassing situations in a roentgenologist's practice than to have missed the diagnosis of gastric malignancy, except in its incipient or very earliest stages. Because of his ability to accurately diagnose gastric lesions, he is saving a larger group of patients suffering with nervous indigestion, chronic gastritis and indiscretion in diet from the operating table and the dangers of a major surgical operation. He can now show and be definitely sure that even massive gastric hemorrhages are coming from small benign peptic ulcers or from varicosities about the cardiac opening of the stomach, and many other lesions needing only medical care.

A decade ago the diagnosis of a gastric cancer by a roentgenologist, or his associates in other fields, was in far too many cases considered justification for the surgical exploration of any such case, and sometimes the roentgenologist was congratulated upon his ability to confirm or rule out the diagnosis of gastric malignancy.

The diagnosis of gastric lesions by means of the roentgen ray has now reached the proficiency in the hands of the competent roentgenologist to not only make the simple diagnosis of a gastric cancer, but the roentgenologist can elicit a much greater amount of information. He can see its position in the stomach, the approximate size of the lesion and the approximate amount of gastric wall involved. He can determine to a large extent whether it is of the flat, ulcerating type in the wall, or the massive parenchymatous type, filling up the lumen of the stomach. If the patient is of average build or thinner, he can frequently determine its motility or fixation to other structures. This of course is done by means of the barium meal, roentgenoscopic examination under the fluoroscope and a series of good roentgenograms taken in different positions and at different times. He is able to determine to some extent the impairment of motility and functioning of the stomach, particularly any tendency to obstruction of either the cardiac or pyloric orifice.

Because of all his diagnostic ability, the roentgenologist is more capable of advising exploratory operation than any other single consultant. Of course, in many cases on which he might advise exploration by the surgeon it will be found that a fair percentage of these cases are inoperable. This may be because of extension of the tumor to other organs, metastasis to the liver and to the adjoining lymph glands, or the lesion is too extensive to be removed. There are few surgeons who would feel competent in their own minds in their technical ability to do a total gastrectomy for a cancer of the cardiac end of the stomach and unite the lower end of the esophagus to the jejunum. Roentgenologists can direct that type of a malignancy to the surgeon who can do such an operation satisfactorily. In some cases, the lesion is so large and involves so much of the stomach wall that nothing short of total gastrectomy would be of any avail. The competent roentgenologists can advise the competent surgeon what to expect and the latter can be prepared with instruments and help before making the abdominal incision. Frequently the roentgenologist can determine, contrary to the expectation of the other consultants, that the patient is beyond the help of any surgical procedure and this opinion should be accepted as final. Sometimes the roentgenologist will be wrong. A single occasional mistake will be far outweighed by the numerous cases operated upon without competent roentgenologic consultation that die a few days to a few weeks following a useless extensive abdominal operation.

*Read at the seventieth annual meeting of the Medical Society of Virginia, in Richmond, October 3-5, 1939.

The family physician is probably in a better position than anyone else to coordinate the facts as to the patient's general condition and ability to undergo the major surgical procedure that the roentgenologist has advised. He can better decide which is the safer; whether to operate immediately and cut off the risk of further extension or metastasis; or whether to wait to build up the patient's resistance before assuming the risk of being operated upon.

Because the family physicians are urging their patients suffering from vague digestive disturbances to have thorough clinical examinations early, the number of gastric cancers being found in their earliest stages is definitely on the increase. Where the roentgenologist thinks that the lesion is possibly operable and the family physician agrees that the patient's general condition will enable him to undergo such an operation immediately, then a surgeon should be called in consultation to help prepare the patient for the procedure. It would be superfluous here to discuss types of operations most feasible for various types of lesions that are operable, nor is the writer competent to enter such a discussion. The roentgenologist sees many cancers of the stomach that are almost surely not removable. Sometimes these patients even have metastasis in the lungs and the skeleton that are positively identified on the roentgenograms. Abdominal operations even in these cases are justified to relieve obstruction of the pylorus or cardia. Gastroenterostomy or gastrostomy is frequently justified to make the last months of the patient more comfortable.

The specialty of gastroscopy is rapidly being developed to such an extent that the opinion of a competent gastroscopist is of considerable value in many cases in determining the operability of a malignancy of the stomach. This is particularly true where the lesion is located in the cardiac end of the stomach or in that portion of the stomach above the angle. The percentage of malignant lesions in this area is small. The gastroscopist's opinion would be particularly valuable in confirming or eliminating the diagnosis of a malignant condition in this upper area, thereby preventing surgical exploration. As a radiologist, it would be foolish for the writer to try to discuss gastroscopy except to express his appreciation of the gastroscopist's opinion in the examination in gastric lesions. Except in medical centers, few competent gastroscopists are available.

This appeal is made to general diagnosticians, family physicians, and surgeons to rely more frequently on the opinion of a competent roentgenologist as to the operability of gastric lesions. All roentgenologists will lean to the side of desiring an abdominal exploration for a gastric cancer where there is even a fair possibility that the lesion can be removed.

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DISCUSSION

DR. LINWOOD D. KEYSER, Roanoke: Among the causes of death cancer ranks second, and the stomach is the most frequent site of this disease, something over 27,000 cases being reported annually. The diagnosis after a variable array of symptoms rests largely upon the roentgenologist whose accuracy in determining this lesion, its site, size and presumptive operability, represents one of the greatest contributions to medicine. The earlier the lesion the more amenable to resection and cure. Hence the value of routine and repeated X-rays in patients suffering from persistent indigestion especially after forty years of age.

Late cancer offers little difficulty to the roentgenologist, but the early lesions when one is dependent on the differentiation of small lesions or such signs as Cole's "limp-peristalsis" may offer difficulty which can be solved only by surgical exploration and biopathologic examination of the tissue removed. Thus, in a series of 135 small gastric cancers and 513 benign ulcers, Comfort and Butsch found that X-ray diagnosis as to malignancy and benignancy was correct in about 78 per cent of the cases. The X-ray man is able to determine a lesion in 95 per cent of the cases. Even in the fundic or cardiac areas of the stomach, newer technique with postural changes during fluoroscopy will determine the lesion in most instances.

Dr. Moore has advanced the thesis that operability of gastric cancer should be determined by the roentgenologist in collaboration with the physician. He contends that few surgeons are competent to deal with carcinoma requiring total or subtotal gastrectomy. In spite of my high regard for Dr. Moore and my respect for his attainments as a roentgenologist I find it difficult to agree with his major conclusion. Just when a surgeon, who by training and experience is capable of performing partial gastrectomy, may be entrusted to do a total gastrectomy is a difficult point. Conner was the first to do the operation in 1884 with mortality. Schlatter in 1897 performed total gastrectomy on a woman who lived fourteen months. In 1929, Finney and Reinhoff reported five personal cases and collected sixty-two from the literature. Roeder, in 1933, reporting three personal cases, brought the total number on record to eighty-eight. Recently Walters, Lahey, Balfour and others have improved the technique and report a number of successful operations. Doubtless the technique is intricate and not to be undertaken by the occasional surgeon, yet I may say the same for pylorectomy or any operation on the stomach. I may dismiss this point with the advice that any patient with a gastric lesion should be encouraged by his physician to seek the services of a

surgeon recognized by training and experience as adept in this field, even though he may have to travel some distance to do so.

As for the determination of operability of gastric cancer by X-ray or surgical exploration, I may quote Billroth, who, being criticized for his high resection mortality, tersely replied to his more conservative medical colleagues, that their mortality was 100 per cent. Much may be said in favor of exploration of all cases of gastric cancer, when obvious metastasis and general debility are not contraindications. In the first place, not all carcinomas reported as operable by the X-ray man are found to be resectable at exploration, as pointed out by Eustenman. It is well established pathologically that it is the grade of the tumor rather than its size, its degree of invasion of contiguous organs, the presence of metastasis in lymph nodes, the liver or other organs, these factors rather than its age or obstructive nature determine operability. Walters points out the difficulty in determining the amount of involvement of the fundus by X-ray methods. This author estimated that 14 to 20 per cent of the cases diagnosed as inoperable by X-ray are satisfactorily resectable. In good hands, that extensive operations are worth while is attested by the Mayo Clinic surgeons who removed four-fifths or more of the stomach in a group of 184 patients. Seventeen and nine-tenths per cent of these were living and well five years or more after operation. Gray Balfour and Kirklin found in 1,000 cases of gastric resection that 50 per cent lived three or more years after operation if there was no lymph node involvement, whereas 20 per cent lived for three years if these nodes were involved.

Judd pointed out another fact, viz., that resection of the tumor even with widespread metastasis was the best palliative operation so far as prolonging life and affording an easier death to the patient was concerned. As for the operative mortality, Balfour reported 200 gastrectomies with a 5 per cent mortality. Marshall and Taylor reported eight total gastrectomies with a 50 per cent and sixty-eight subtotal gastrectomies with 31 per cent mortality.

In 4,793 operations for gastric cancer in the Mayo Clinic, 2,112 gastrectomies were done with a mortality of 13.9 per cent; 838 gastro-enterostomies with a mortality of 3.5 per cent; 1,840 explorations with a mortality of 3.5 per cent.

Acceptability of cases for operation varies from 30 per cent to 70 per cent depending upon the clinic. For instance, Lahey has accepted 22 per cent for operation with 7 per cent five-year cures.

I contend, then, that given a patient with gastric cancer, he is entitled to exploratory operation as his only chance for cure or palliation. A good surgeon, capable of doing a pyloric resection, should, with perhaps a few experiences, be able to develop the technique of total or subtotal gastrectomy with a reasonably low mortality. Without such an effort we commit such a patient to a certain and very terrible death.

Again at exploration we may encounter gastric syphilis and especially lymphosarcoma, the latter being definitely ameliorated and at times cured by roentgen therapy. About twelve years ago I explored a negro man of twenty-five years for supposedly inoperable malignancy. Biopsy showed lymphosarcoma. Gastro-enterostomy was done for relief of obstruction. Intensive X-ray therapy was given. He is alive and apparently well today and was reported last year in a series of such cases by Dr. Archer.

A patient of forty-four years diagnosed as operable by X-ray had an obstructing pyloric lesion. At exploration lymph nodes were enormously enlarged, and something over one-half of the stomach was removed, an anterior Poly's operation completing the operation. After ten months he is alive and, while not cured, is comfortable, maintaining his nutrition and carrying on his work.

In short, it is my conviction that the surgeon at exploratory laparotomy is the final judge as to the operability of gastric malignancy, granted, to be sure, that the findings of the roentgenologist and internist should be carefully considered in determining his judgment.

DR. J. SHELTON HORSLEY, Richmond: The statement of Dr. Moore that the treatment and management of cancer of the stomach should be left entirely to the X-ray man and the family physician is amazing. I wonder if fractures are done the same way.

To be sure, the X-ray man is the chief source of information in the diagnosis of cancer of the stomach, but even after the lesion is determined there are factors that neither the X-ray man or family physician can hardly evaluate. The gastroscopist helps in cancer of the cardiac end of the stomach. Sometimes there are cases in which the nature of the lesion cannot be definitely determined without a microscopic section. Now nobody values more than I do the help of the roentgenologist in making diagnoses of cancer of the stomach, but to say the surgeon should be excluded is going a little too far.

There is only one treatment for cancer of the stomach, and that is surgical. There are very rare cases of small round cell cancers of the stomach or of lymphosarcoma of the stomach, in which X-ray treatment is of great benefit; but even in those cases it would seem logical to operate and then give X-ray treatment. As a matter of fact, we know that the ordinary garden variety of cancer of the stomach or bowel is not usually beneficially affected by X-ray. In the lower rectum or lower colon where the cancer can be reached irradiation may be helpful.

There are small malignant lesions in the stomach which the X-ray picture might indicate to be operable but these may be extensive metastases even, in the liver. Then there are extensive cancers where almost the whole stomach can be removed with recovery. I have had a case of cancer of the stomach where I had to take out about two-thirds of the stomach and the adherent portion of the transverse colon. The patient is well over five years after the operation. Then the leiomyosarcoma usually produces no filling defect from the inside; it is a pushing defect. It usually arises in the wall of the stomach and pushes the mucous membrane without a break of the membrane at all.

People do not want to believe disagreeable things. Thomas Scholz, of New York (Scholz, Thomas. Curriculum Vitae of Two Gastric Cancers. *Am. Jour. of Cancer,*

18:834-851, August, 1933) in 1933 reported the X-ray examination of a patient who had just a slight indigestion, a good friend of the family doctor—and friendship is one of the most fatal things in this disease—and he reported to the family doctor that it was early cancer. The doctor was rather indignant; the patient was, too. They got someone else, and two years later the patient died of gastric cancer. *Practically every cancer of the stomach in the early stages can be relieved of symptoms by medical treatment.* The false idea that relief of symptoms by medical and dietary treatment is a therapeutic test showing a benign lesion is responsible for many deaths from gastric cancer.

Educating people that gastric cancer in the early stages can be cured by operation, and that a surgeon experienced in gastric surgery is the essential part of the therapy, are the important things.

DR. P. P. VINSON, Richmond: Dr. Moore was kind enough to ask me to discuss the role of gastroscopy in determining the operability of cancer of the stomach. Two types of gastroscopes are used for examining the stomach. In one of these the tube is open, and a relatively small portion of the stomach can be observed. As a rule, only the entrance of the esophagus into the stomach can be visualized and when carcinoma exists in this area, the lesion should usually be considered inoperable. Dilatation of growths of this type will provide temporary comfort for the patient and is preferable to gastrostomy. The other type of tube, that which has been popularized by Schindler, is the flexible gastroscope which permits visualization of the greater portion of the interior of the stomach. This examination is sometimes helpful in determining operability of a gastric lesion, but is not conclusive.

It is my belief that the importance of gastritis has been unduly emphasized by a gastroscopists, but as methods are improved for visualizing the stomach and removing tissue for microscopic examination from various areas in the gastric mucosa, gastroscopy should become an increasingly important diagnostic procedure.

DR. FRED M. HODGES, Richmond: When I read Dr. Moore's abstract I asked him where he wanted his body sent.

There is one part of his paper I do want to comment on from the standpoint of the roentgenologist. We see too many cases that are operated upon and a gastro-enterostomy done by surgeons not particularly experienced in gastric surgery where a more experienced man might have done a radical resection with some hope of a good result. I think that men doing this work should be sure that they are capable of going the limit when they get into the abdomen since you don't know whether a simple operation or a gastric resection may be necessary.

As far as I am personally concerned, I wouldn't be willing for any patient I X-rayed not to have the abdomen opened, unless you had evidence of metastasis to the lungs or bone, or unless the gastroscopist could demonstrate a lesion which extends up to the esophagus. There is no doubt but that an experienced radiologist can usually determine the operability of a gastric lesion, but since no method of examination is one hundred per cent efficient I believe that the patient should have the advantage of an exploratory operation.

DR. MOORE, closing the discussion: It is very flattering to have so much discussion by such a group of prominent physicians, but I feel very much like the boy that didn't bring anything to the picnic except a can opener.

I would like to expand a little further on what Dr. Dodges said. Unfortunately, we do not have such surgeons as Dr. Horsley and Dr. Keyser scattered all over Virginia in the towns and county seats. If we did, we wouldn't have the present difficulty in curing cancer of the stomach. This paper was written for the instruction, not for men who discussed it, but to help physicians who are operating in the county hospitals and in the hospitals where they see one or two or maybe less cancers of the stomach a year. I am trying to get them to visualize what they are going into before they make that abdominal incision.

THE TREATMENT OF EIGHTY-THREE CONSECUTIVE CASES OF PNEUMONIA IN CHILDREN WITH SPECIAL REFERENCE TO MODES OF THERAPY.*

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The purpose of this paper is to present the treatment and results obtained in eighty-three consecutive cases of pneumonia treated on the Pediatric Wards of the University of Virginia Hospital.

Until recently the treatment of pneumonia consisted of general supportive measures and no specific treatment was employed. In the past several years the use of specific serum has taken its place in the treatment of pneumonia. Many reports are in the literature confirming its value in decreasing mortality, length of hospitalization and complications in selected cases. Specific therapy has been very successful in adults but in our experience in children it has been far from practical. Several factors render

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*The preliminary work of this paper was read before the Norfolk County Medical Society, at Norfolk, Va., February, 1939.

this type of treatment impractical on pediatric wards and even more impractical for the practicing physician.

It is necessary to recover and type the infecting organism. Small children with pneumonia do not expectorate and therefore it is impossible at times to collect a satisfactory specimen for examination. There are three ways in which specimens are obtained; lung puncture, laryngoscopic examination with swabs taken directly from the trachea and the method most commonly used in children, swabbing the pharynx. We do not believe lung puncture is justifiable and the laryngoscopic method means the use of special instruments and is not practical for general use. Because of these difficulties, we have resorted to pharyngeal swabs for obtaining specimens for culture. It has been our experience, as well as that of others, that it is difficult to obtain the pneumococcus by this method. Even though a pneumococcus is recovered, one cannot be sure that this is the organism causing the pulmonary infection. It also seems likely that the throat of any child or infant may harbor pneumococci during the pneumonia season.

It is recognized that to obtain the best results with serum treatment, the patient should be seen within seventy-two to ninety-six hours of the onset of the illness. Since physical signs of pneumonia in small children are at times late in becoming obvious, a large majority of the cases are not diagnosed until it is too late for serum therapy to obtain maximum results. Best results are obtained by giving the serum intravenously. Even with physicians constantly doing intravenous work in children this is often difficult to accomplish in small infants. The economic factor of serum therapy must be considered, as the cost is often prohibitive to the patient. It must be remembered that administration of horse serum to small children often makes it extremely difficult to again give antitoxins in later life, as these patients frequently become highly sensitive to horse serum.

In this series of eighty-three cases, only eleven were given serum therapy because of one or more of the reasons just stated. On admission the diagnosis was confirmed by X-ray, throat swab and cultures. Serum was given only in Types I, V, and XIV. Twenty thousand units were given in 200 cc. of saline intravenously. If the temperature did not fall in four hours, 20,000 units more were given. The only other treatment consisted of symptomatic and supportive measures. In two of the cases empyema developed and blood transfusions were given. Surgical treatment was later necessary. In the other cases, serum treatment showed results as dramatic as in adult pneumonia. It should be added that these patients did receive sulfanilamide until serum was administered.

During the winter of 1937-'38 the problem arose on the medical wards as to how to treat those pneumonias that came under observation too late to receive specific serum therapy, as well as those cases in which there was no available serum. During the winter of 1938-'39 all pneumonia cases admitted to the pediatric wards that did not fulfill all of the optimum requirements were treated with sulfanilamide. By the middle of the winter, results were so encouraging that sulfanilamide was used even in cases that fulfilled all the optimum requirements for serum therapy.

In this series blood cultures were not taken routinely but only on those cases that appeared seriously ill. No determinations of the blood sulfanilamide level were made because a large percentage of our cases were very young infants which immediately brought forth the problem of needling veins that might later be badly needed for blood transfusions, etc. While 5 cc. of blood necessary for blood determination is of no importance to older children or adults it is comparable to 50 to 75 cc. of blood in infants under two years of age. Sulfanilamide was always given with an equal amount of soda and was administered by mouth. One grain of sulfanilamide was given for each pound of body weight per day. This was divided into six doses, being given every four hours. The initial dose was larger, being one-third of the total twenty-four dosage. Sulfanilamide was continued twenty-four hours after the temperature returned to normal. At this time it was usually discontinued.

In the exclusively sulfanilamide treated cases other forms of therapy were entirely symptomatic and supportive. Saline fluids either by gavage or infusion were given frequently. This was administered in an attempt to raise the blood chloride which is usually low in pneumonia. Blood transfusions were given in two cases. Otitis media was found in 37 per cent of these cases and was given appropriate treatment.

XUM

FIGURE I

CONDITION ON ADMISSION

Moderately Ill—9 Acutely Ill—52 Severely Ill—22*
(*One case had positive blood culture)

AGE INCIDENCE	No. CASES
Under 1 year	26
1-2 years	7
2-3 "	8
3-4 "	11
4-5 "	7
5-6 "	5
6-7 "	8
7-8 "	2
8-9 "	5
9-10 "	2
10-11 "	0
11-12 "	3
Total	83

PNEUMOCOCCUS TYPES	No. CASES
Type I	9
" III	2
" IV	1
" V	2
" VII	1
" VIII	1
" IX	2
" X	1
" XII	1
" XIV	4
" XV	6
" XVII	1
" XVIII	1
" XIX	2
" XXI	1
" XXII	1
Total	37

NUMBER OF CASES IN WHICH PNEUMOCOCCI WERE RECOVERED—32, OR 36 PER CENT

In Figure I we placed under "moderately ill" those cases who did not look toxic and whose general condition appeared good. The "severely ill" patients were those which showed at least one or more of the following features: Coma, marked cyanosis, signs of circulatory failure or extreme dehydration.

In Figure I, under age incidence, it will be noted that twenty-six, or 31 per cent, of our cases were under the age of one year and that 40 per cent of our cases were under the age of two years. In this age group the expected mortality is usually two or three times as high as in the group over two years.

Attention is called to the fact that in these eighty-three cases we were able to recover at least one type (often two) of pneumococcus in only thirty-two instances, or 36 per cent, of our cases.

FIGURE II

RESULTS

SULFANILAMIDE

Dramatic effect	51
Questionable effect	15
No effect	6*

*(4 cases spread under treatment) (1 case died)

SERUM

Patients treated	11*

*(2 cases developed empyema)

LENGTH OF HOSPITALIZATION

Untreated	(31)	14.3 Days
Treated	(83)	9.1 Days

MORTALITY

Untreated	(31)	12.9%
Treated	(83)	1.2%

In the sulfanilamide treated cases we included under "Dramatic Effect" those cases in which the temperature dropped to normal within forty-eight to sixty hours after administration of the drug. In the majority of instances the temperature was normal with thirty-six to forty-eight hours.

Under "Questionable Effect" we included those cases in which the temperature dropped to normal after sixty hours but in whom there was a definite lowering of the temperature after sulfanilamide was begun.

Under "No Effect" we included those cases which apparently showed no change whatsoever after the administration of sulfanilamide. In this group four cases had physical evidence as well as X-ray evidence of a spread of pneumonia. Also in this group there occurred the only death in the series. This case was in a moribund condition on admission having all but one lobe consolidated. This child died eighteen hours after admission.

In the "Serum Treated" cases two developed empyema. One of these cases had suspicious X-ray evidence of this complication on admission. In one of the serum treated cases the temperature was dropping when the serum was given. In one case a rather stubborn urticaria developed.

Our "Untreated" group which we have used as controls are that only in name as they were taken at random in a previous year and have no association with the cases in this series.

DISCUSSION

We realize that no definite conclusions can be made from this report because of the small number of cases and the lack of alternate controls. It is also known that the mortality varies from year to year. However, in our experience, the effect of the sulfanilamide treatment has been so prompt in so many cases that certainly further investigation of this form of treatment is indicated. If it can be definitely shown that sulfanilamide is as good an agent as our results would so far indicate, it is not improbable that sulfanilamide will supplant specific therapy in so far as children are concerned.

There were some disadvantages in the use of this

drug, the main one being that it was extremely difficult to estimate exactly how sick the patient was after the drug had been given. Cyanosis was encountered very frequently and in a disease where cyanosis is of prognostic importance this is an objectionable feature. Perhaps the best criterion as to the progress of our patients was the temperature curve. In seven cases mental confusion was noticed and since this could not be ascertained in the smaller children, it may have occurred oftener. In one case it was necessary to discontinue the drug because of a drop in the hemoglobin from 78 per cent to 58 per cent in two days. In one case the drug was discontinued because of a marked drop in the number of white cells. No other toxic signs were noticed and unfavorable effects promptly subsided when the drug was administered.

SUMMARY

1. The disadvantages of serum treatment in pneumonia of childhood are pointed out.

2. The method of administering sulfanilamide and the effects of the drug are discussed.

3. In eighty-three cases the mortality was 1.2 per cent, although 31 per cent of the cases were under one year of age.

4. The advantages to the general practitioner of chemotherapy as compared to serum therapy are pointed out.

THE PALLIATIVE TREATMENT OF CARCINOMA OF THE ESOPHAGUS.*

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One of the most discouraging problems in medicine is the unsatisfactory status of the treatment of patients with carcinoma of the esophagus. Although Moersch has reported successful removal of a malignant intra-esophageal tumor by means of surgical diathermy applied through an esophagoscope, and a few patients have survived radical extirpation of carcinomatous esophageal growths, treatment for carcinoma of the esophagus has improved very little during the past twenty-five years.

The advanced age and the type of individual who usually suffers from esophageal carcinoma plus the inaccessibility of the lesion, the high degree of malignancy, and the frequency of metastasis when the disease is recognized, reduce the number of cases that are favorable for complete removal to the point that many surgeons do not believe that radical operation should be undertaken. Even when the question of operation is considered with a maximum degree of optimism, the majority of patients with carcinoma of the esophagus are not in sufficiently good physical condition to justify an attempt to remove the growth.

When operation is not indicated, several palliative procedures have been advocated by various authors. Radio- and roentgenotherapy have been employed in treatment for the disease, but the results have rarely been beneficial, and in the majority of cases nausea and vomiting following radiation have increased the patient's discomfort.

Since the outstanding symptom of carcinoma of the esophagus usually is dysphagia, palliative treatment consists of procedures which promote introduction of food and fluid into the body. When the esophagus is completely obstructed by a growth and dehydration is severe, fluid should be administered subcutaneously, intravenously, and by proctoclysis until food and fluid can be given more effectively.

Gastrostomy is frequently employed as a palliative procedure in carcinoma of the esophagus, and many writers have insisted that it is the most satisfactory method of providing nourishment for the patient. However, the risk of gastrostomy varies from 10 to 50 per cent, depending upon whether operation is performed early or late in the course of the disease. Operation should not be done before it is urgently required, merely to maintain the lower mortality rate. Gastrostomy requires a period of hospitalization of at least a week or ten days.

The average duration of life after surgery is four months. In patients whom I have observed who have not had any type of treatment, the average duration of life has been three months; it would appear, therefore, that gastrostomy cannot be recommended as a method for prolonging life. The majority of patients

*This address was scheduled to be delivered by the author as a guest speaker from America before the Fourth International Oto-Rhino-Laryngological Congress, Amsterdam, Holland, July 29-August 3, 1940, but because of the war, the meeting was called off.

rarely obtain comfort from gastrostomy, and when all the disagreeable features connected with the operation are evaluated, it cannot be considered a palliative procedure. General supportive measures, sedatives for pain, and fluid administered by various routes probably constitute a better method of treatment than gastrostomy.

Two methods of treatment involving a minimal amount of risk and discomfort and providing the greatest degree of palliation are intubation or dilatation of the growth in the esophagus. When a growth is located in the upper end of the esophagus with involvement of the hypopharynx, or when it infringes on the cardiac orifice of the stomach, intubation cannot be performed except with a long, soft, rubber tube of small calibre, such as the one devised by Rehfuss. When the growth is in other areas, the spiral metal tube perfected by Souttar has proved useful.

When the soft rubber tube is introduced into the stomach, the proximal end can be withdrawn through the nose and kept in place for an indefinite period of time. A few patients object to the presence of the tube, but it rarely produces as much discomfort as a tube through a gastrostomy.

Before tubes can be introduced through a growth in the esophagus, it is usually necessary to dilate the malignant stricture. If large sounds are passed through the stricture, almost all patients will be relieved of dysphagia, and intubation will not be required. A malignant stricture at any point in the esophagus can be dilated, and after dilatation to size 45 French, soft or solid food can be swallowed without difficulty. A satisfactory lumen through the esophagus can be maintained for an indefinite period of time by occasional introduction of dilating sounds.

Increase in intake of food produces gain in weight and strength, and many patients are able to resume or continue their activities. Average duration of life after dilatations are begun is seven months. One of my patients remained in good condition for more than three years following one dilatation of the esophagus, but finally succumbed from generalized metastasis. Many patients survive in comfort for a year or longer, and few of them require dilatation more frequently than every six or eight weeks.

If dilators were passed through an esophagoscope or introduced unguided into the esophagus, perforation might occur in many instances, but when dilating sounds are passed over a previously swallowed, twisted silk thread, the risk of stretching the stricture is less than 1 per cent. Hospitalization is not required, and treatment can be administered with minimal discomfort.

In addition to the advantages of dilatation which have already been enumerated, another important consideration is that many patients have symptoms and signs suggesting carcinoma of the esophagus when obstruction is the result of a benign stricture, and any treatment other than dilatation is unnecessary. In 20 per cent of patients having benign stricture the cause is unknown, and in many the possibility of carcinoma cannot be eliminated. Therefore, in all patients having stricture of the esophagus, whether benign or malignant, dilatation is the preferable form of treatment.

A size "D," buttonhole, twisted silk thread should be swallowed at the rate of a foot an hour, beginning twenty-four hours prior to treatment. If the thread is swallowed too rapidly, it may tangle in the esophagus or stomach and prevent passage of sounds over it. If, however, the thread is swallowed slowly, it will pass through the stricture and into the stomach and coils of intestine in a single strand. The angles of the intestine prevent withdrawal of the thread when it is held taut and it can be used as a guide for introduction of sounds. Perseverance may be required before the thread is swallowed by elderly patients or when symptomatic obstruction is complete. After the thread has been used as a guide for passage of sounds, it is cut off at the mouth and passes through the intestinal tract.

The only contraindication to swallowing a thread and attempting dilatation of a malignant stricture of the esophagus is in those cases in which spontaneous perforation has occurred with formation of esophagotracheal or esophagobronchial fistula. When fistula is present, the thread may pass through the opening into the air passages and be coughed up and swallowed again. This performance may be repeated until many strands of thread have become entwined around the esophagotracheal septum.

When a fistula from carcinoma is present between the esophagus and air passages, the best treatment is to administer fluid by the usual routes and to make the patient as comfortable as possible by the use of sedatives. Gastrostomy provides little or no comfort, and death usually ensues within a few days after operation.

XUM

CONCLUSIONS

1. Cure of carcinoma of the esophagus is seldom accomplished, and in the majority of cases treatment should be directed toward prolonging life and increasing the patient's comfort.

2. Gastrostomy is attended with a high operative risk, does not prolong life, and rarely increases comfort.

3. Few beneficial results have followed treatment of carcinoma of the esophagus by radiation.

4. Use of a previously swallowed silk thread as a guide for passing sounds or intubating tubes through a malignant stricture in the esophagus simplifies instrumentation and provides the greatest degree of palliation with minimal risk.

BIBLIOGRAPHY

1. Broders, A. C., and Vinson, P. P.: The Degree of Malignancy of Carcinoma of the Esophagus, *Arch. Otolaryng.*, 8:79-80, July, 1928.
2. Dehne, Ernst: Das Oesophaguscarcinom mit besonderer Berucksichtigung der Dilatationsbehandlung am Leitfaden von H. S. Plummer, *Deutsche Ztschr. f. Chir.*, 239:453-461, March 2, 1933.
3. Jackson, Chevalier: Symposium on Cancer of the Esophagus: Diagnosis and Treatment. II. Esophagoscopic Aspects, *Ann. Otol., Rhin. and Laryng.*, 40:886-894, September, 1931.
4. Moersch, H. J.: Carcinoma of the Esophagus Removed by Surgical Diathermy, Proc. Staff Meet. Mayo Clin., 10:433-435, July 10, 1935.
5. Myerson, M. C.: Intubation of the Esophagus for Carcinomatous Stricture, *Am. J. Surg.*, 40:56-58, March, 1926.
6. Plummer, H. S.: Esophageal Obstructions, with Especial Reference to Carcinoma, *Journal-Lancet*, 32:32-39, 1912.
7. Souttar, H. S.: A Method of Intubating the Oesophagus for Malignant Stricture, *Brit. M. J.*, 1:782-783, May 3, 1924.
8. Symonds, C.: An Account of the Short Tube for the Treatment of Stricture of the Oesophagus, Guy's Hosp. Rep., 75:141-146, April, 1925.
9. Vinson, P. P.: Malignant Disease of the Esophagus: Study of 1,000 Cases, *Northwest Med.*, 32:320-323, August, 1933; abstracted, Proc. Staff Meet. Mayo Clin., 8:370-371, June 14, 1933.
10. Vinson, P. P.: The Treatment of Carcinoma of the Esophagus, *Surg., Gynec. and Obst.*, 62:840-842, May, 1936.
11. Vinson, P. P., and Moersch, H. J.: Dilation *versus* Gastrostomy as a Palliative Treatment of Carcinoma of the Esophagus, *J. A. M. A.*, 84:658-659, February 28, 1925.
12. Watson, W. L.: Carcinoma of the Esophagus, *Internat. J. Med. and Surg.*, 47:204-205, April, 1934.
13. Yorke, C.: A Simple and Safe Method of Oesophageal Intubation, *Brit. M. J.*, 1:440-441, March 8, 1930.

Medical Arts Building.

THE INVESTIGATION AND TREATMENT OF STERILITY IN THE FEMALE.*

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Approximately fifteen per cent of married couples are involuntarily sterile. It is now recognized that the male is at fault in more instances than formerly believed—from 20 to 25 per cent in various series. In this discussion of the investigation and treatment of sterility in the female, it is presumed that the male factor is likewise being carefully investigated. The sterility history must be a more intimate one than ordinarily taken to include detailed knowledge of sex habits, frequency, libido reaction, and position. In the physical examination, one must be more alert for endocrine stigmata and the gynecologic examination must be especially detailed. Most investigations of sterility include certain special procedures which I have outlined in a series of charts.

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SPECIAL METHODS OF INVESTIGATION IN STERILITY

I. SPECIAL LABORATORY TESTS.

1. Complete blood count, Sedimentation rate.
2. Urinalysis. Wassermann.
3. Hanging drop for Trichomona Vaginalis.
4. Stained smear of vaginal and cervical discharge.
5. Reaction of vaginal and cervical secretions.
6. Viscosity of aspirated cervical mucus.
7. B.M.R. Glucose tolerance test.

II. POST-COITAL EXAMINATION (HUEHNER TEST).

1. Vaginal pool (one to one and one-half hours after coitus).
   A. Amount.

B. Spermatozoa.
(a) Number—spermatozoa count.
(b) Morphology—stained smear.
(c) Motility.

2. Aspirated cervical mucus.
A. Spermatozoa.
(a) Number.
(b) Motility.
B. Pus cells.
C. Tenacity of mucus.

III. CONDOM OR EJACULATE.
1. Interval between coitus and examination.
2. Spermatozoa.
A. Number—spermatozoa count.
B. Motility.
C. Morphology—stained smear.
D. Per cent of abnormal forms.
3. Pus cells.

IV. TUBAL PATENCY TEST.
1. Rubin test.
A. Carbon dioxide gas or air.
B. With antispasmodic drugs.
2. Repeated patency tests.

V. UTEROSALPINGOGRAPHY WITH IODIZED OIL—MODIFICATION.
1. Roentgenography with pneumoperitoneum combined with utero-tubal iodized oil instillation.
2. Contrast hysterography with iodized oil and carbon dioxide injection.

VI. ENDOMETRIAL BIOPSY.

VII. BLOOD AND URINE HORMONE STUDIES.
1. Blood estrogen assay.
2. Urine gonadotropic hormone.
3. Urine pregnandiol.

VIII. ESTIMATION OF TIME OF OVULATION.

The post-coital or Huehner test has been a main procedure in the investigation of the sterility problem for years. The normally acid vaginal secretions are inimical to spermatozoa but motility should be present one and one-half to two hours after coitus if the semen is healthy. Moench[1] has emphasized the value of doing an actual spermatozoa count and of studying their morphology in a stained smear, and most authorities today agree with him. There should be present not less than 100,000,000 to 150,000,000 spermatozoa per cc., mostly motile. There should not be more than 25 per cent of abnormal forms in the smear. It is the contour of the head that decides the normalcy of sperms. A study of the aspirated mucus from the cervix is the most important step in the Huehner test. The finding of actively motile, healthy spermatozoa in generous numbers in the vaginal and cervical specimens rules out the male, excluding germ plasma defects, as the cause of sterility. Roger has recently described a modified tonsil suction syringe to facilitate obtaining the cervical mucus in the Huehner test. Krigbaum advocates the use of the Hy-kup to hold the semen within the vagina until the patient reaches the office. This is a bell-shaped cup made of soft rubber, readily inserted by the patient immediately after coitus. I have found the device most serviceable. The following instructions should be given to a patient who is to have a Huehner test:

(a) Recline a minimum of twenty minutes after marital relations.

(b) Do not go to the bathroom to void.

(c) Insert the Hy-kup before getting out of bed.

(d) Come to the office not later than an hour after coitus for the test.

(e) Ask to speak to the nurse at once and explain to her that it is about a Huehner test.

An unsatisfactory Huehner test does not necessarily place the blame on the male. The results should be checked by a condom or ejaculate specimen.

Tubal Insufflation: The Rubin test is the most commonly used method in investigating the patency of the tubes. It is best performed a week after cessation of menstruation, at a time when the endometrium has not regenerated, uterine spasm is slight, and unsuspected pregnancy unlikely. The latest model Rubin apparatus includes the use of carbon dioxide to lessen pain by hastening absorption of the pneumoperitoneum and the use of the kymograph to visualize obstruction, stricture, peristalsis, and spasm. Two hundred to three hundred cc. of the gas is used for a test, the flow being at the rate of about 1 cc. a second. Pressure up to 200 mm. of mercury is employed before a negative test is assumed. The simultaneous use of antispasmodics may change the result from negative to positive, and in no instance should the tubes be adjudged permanently closed without many insufflations. The normal fallopian tube permits the passage of 60 to 90 cc. of carbon dioxide gas per minute at 60 mm. mercury pressure. Inasmuch as tubal peristalsis is under the direct control of the hormonal activity of the ovaries, the Rubin test, properly performed, will give much

information concerning not only the tubes but also ovarian function.

FACTORS IN ETIOLOGY OF STERILITY

CONSTITUTIONAL—Chronic infection—tonsils, teeth—poor health—anemia—lack of rest—protein starvation—alcoholism — undernutrition — diabetes—T. B.—Sy. —past age of optimum fertility.

ENDOCRINE—Pituitary deficiency—ovarian—thyroid—menstrual disturbance — amenorrhea, oligomenorrhea, hypomenorrhea, polymenorrhea, menorrhagia, anovulatory menstruation.

FAULTS IN RECEPTION—Dyspareunia—vaginismus—frigidity—relaxed perineum—sperm immunity—coitus interruptus.

HOSTILITY TO SPERM IN VAGINA—Excessive vaginal acidity —leucorrhea—trichomona vaginalis.

CERVICAL CONDITIONS—Abnormal position of cervix—abnormal external os—cervical stricture—lacerations —polyp—acidity of cervical secretions—cervical infection — gonococcal — nonspecific—erosion—viscid mucus plug.

UTERINE CONDITIONS—Infantile uterus—uterine fibroids—retroversion — congenital anomalies — endometrial anomalies.

TUBAL OCCLUSION — Unexplained—post-abortional—gonococcal — tuberculous — adhesions subsequent to abdominal operation—angulation of tubes from retroversion—endometriosis—tubal spasm—tubal atonicity.

DEFECTIVE OVULATION—Endocrine (pituitary, thyroid)—peri-ovarian adhesions—thickened tunica albuginia —follicle cystosis—dermoid cysts—persistent corpus luteum.

HUSBAND:

1. Constitutional
2. Endocrine
3. Occluded Vas.
4. Sperm Deficiency

Uterosalpingography with Iodized Oil. This procedure is indicated when repeated tubal insufflations fail to demonstrate patency of the tubes, and when operation is under advisement. It gives valuable information as to the nature and site of the obstruction. The procedure, however, is not entirely harmless. Cases have been recorded in which partially occluded tubes have become permanently closed after it, and occasionally the retained oil in the pelvis has set up an inflammatory reaction that has made laparotomy imperative. On the contrary, occasionally iodized oil injections seem to be of definite therapeutic value. The technique of uterosalpingography is relatively simple. Five to eight cc. of warm lipiodol are injected into the uterine cavity, using a Rubin cannula and a record syringe; or, if available, the Jarcho apparatus, manufactured by Becton-Dickinson Company. Hyams[2] employs a fractional method, injecting the oil in 2 cc. installments, taking exposures after each injection. He claims to obtain less spasm and pain and more accurate pictures by his method. Titus advocates the use of a new non-irritating radiopaque compound consisting of 40 per cent skiadan and 20 per cent acacia.

X-ray, following pneumoperitoneum, either via the abdominal or tubal route combined with utero-tubal instillation of oil is a modification of the above method which is of occasional value. Another modification of uterosalpingography is contrast hysterography; that is, X-ray of the uterus after injecting the uterus first with iodized oil and then with carbon dioxide. This latter method is of especial value in diagnosing submucous fibroids.

Endometrial Biopsy. This method is the most efficient and simplest which we have at the present time for determining ovarian function. It has displaced blood and urine hormone tests for estrogenic and gonadotropic substances. I have used for this purpose the Novak suction currette. Space does not permit the discussion of normal and pathological endometrial patterns, but reference is made to the excellent article by J. Kotz and Elizabeth Parker[3A] entitled "The Clinical Interpretation of the Endometrial Biopsy, Report of 300 Cases." A normal pre-menstrual endometrium presupposes a normal ovarian cycle with a normal elaboration of and balance between estrogen and progesterone.

Anovulatory Menstruation. Endometrial biopsy has played a major role in diagnosing the fairly recently described entity, anovulatory or pseudomenstruation. This is cyclic uterine bleeding, clinically indistinguishable from normal menstruation, but from an endometrium totally lacking secretory or nidation elements. It is presumed to be due to failure of ovulation and subsequent luteinization or to a disproportionate production of the two hormones. Evidence is rapidly accumulating that such anovulatory menstruation is fairly frequent, especially at the two extremes of menstrual life. Kotz and Parker[3B] observed it in forty out of 300 cases studied, and Mazer, Israel, and Charny[4] noted it in thirty-seven out of 104 selected cases of functional sterility. Rock, Bartlett, and Matson[5] found it in 9.1 per cent of 392 women complaining of sterility. Summarizing the matter, reasoning is as follows: If, on endometrial biopsy shortly before the expected flow, you obtain one or the other type of proliferating endometrium

with no evidence of secretion, you may conclude that there is an absence of progesterone, that no functioning corpus luteum is present in the ovary and that, therefore, ovulation has not occurred.

Blood and Urine Hormonal Studies. These tests are being used less frequently than a few years ago. More emphasis is now being placed on the clinical evidence and the condition of the endometrium as disclosed by endometrial biopsy. In sterility studies, the blood estrogen determinations are still of importance in the prognosis of severe amenorrhea. If done weekly for six weeks and each is negative, an irreparable ovarian defect probably exists. The demonstration of the presence of the gonadotropic hormone in the urine would establish the ovarian failure as primary. Quantitative urine tests for gonadotropic hormone cost approximately twenty dollars. Shute[6] has recently described a method of determining the estrogenic substance in the blood serum by means of an estimation of the anti-proteolytic power of the serum. I have been unable to find any confirmation of this work. The recent discovery by Venning[7] of a chemical test for pregnandiol, an excretion product of the progesterone of the corpus luteum, has opened a new field for the study of the luteal phase of ovulation and menstruation. The test is expensive and requires an expert chemist. Pregnandiol determinations are of value in diagnosing anovulatory menstruation, but, as previously stated, the pre-menstrual endometrial biopsy is more practical and more informative.

Estimation of Time of Ovulation. It is apparent that the opportunities for pregnancy could be increased if we could foretell just what day in the menstrual cycle ovulation would occur. It is generally agreed that only one ovulation occurs during each cycle and that the ovum survives only a few to twenty-four hours unless fertilized. It may also be possible for the excessive stimulation of coitus to produce ovulation at any time in the cycle. Spermatozoa maintain their power of fertilization only about two days. Ogino and Knaus are chiefly responsible for the theory of the safe period, with ovulation estimated to occur twelve to sixteen days before the next menstruation. Several new methods for determining the time of ovulation have been recently described:

(a) Endometrial biopsy, ovulation being presumed to have occurred on the first evidence of secretory endometrium.

(b) The appearance of pregnandiol in the urine.

(c) Electrical changes as detected by a vacuum tube potentiometer, with one electrode placed suprapubically and the other in the vagina. (Rock, Reboul, and Snodgrass[8]).

(d) Spectroscopic examination of the blood. (Samuels).

(e) Basal body temperature. (Zuck[9]).

(f) Local signs: pain in the ovary, glary translucent cervical secretion.

(g) Vaginal smear studies.

Among the local signs which may occur are contraction of the uterus, slight bloody discharge, profuse glary translucent cervical secretion, desquamation of the vaginal mucosa, pain in the ovary, and enlargement of the breasts.

Zuck[10] graphically depicted sixteen planned pregnancies successfully started by using mid-period symptoms and lowered body temperature as indication of ovulation and for coitus. There were no other exposures during the cycle except on the indicated day. It is convenient to have readily available a means of estimating the relatively safe and sterile period. In general, the patient's menstrual cycle may be divided into thirds, the first third and the last third being relatively safe, and the middle third being fertile, but of course, there are many exceptions to the rule. In many women conception may take place at any time during the menstrual cycle. Pregnancy following coitus during menstruation can and does occur.

TREATMENT

I shall not give a full discussion of the many procedures which are utilized in the treatment of female sterility. It is to be emphasized that the etiology is often complex and in a given case the treatment must include all of the factors.

Reference is made here to only the more recent or controversial therapeutic procedures.

The Diet. Adequate intake of protein is presumed to stimulate the pituitary gland with resulting improvement in sex hormone function. The fact that diet and fertility are inter-related is further emphasized by the recent knowledge of the so-called anti-sterility vitamin "E". I can find no controlled reports of improved fertility by means of an increased intake of vitamin "E" in humans, although its value in the prevention of abortion is abundantly maintained. In rats its has been shown that on a diet

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deficient in vitamin "E" growth to maturity occurs, but ability to reproduce is lost. Should gestation occur, death and resorption of the developing young are the rule.

GENERAL DIRECTIONS IN THE TREATMENT OF STERILITY

A. There must be a general improvement in health. More rest. More exercise. More sunlight. Often a vacation is of value.

B. Weight must be normal.

C. Any chronic foci of infection must be eliminated.

D. Sex habits must be normal. Sex excesses must be discontinued. Often a period of abstinence of several weeks or months will bring about subsequent gratifying results.

E. The diet must be adequate in protein and vitamin "E." Especially valuable are milk, red meats, butter, green vegetables (especially lettuce), citrus fruits, raw tomatoes, onions, and nuts. Alcohol is prohibited.

F. Metabolism, that is, the thyroid function, must be normal and both man and wife may have to have a metabolism test.

G. If there is any mal-adjustment in sex relations, read books on sex, such as "Sex Satisfaction and Happy Marriage," by Rev. A. H. Tyrer; or "The Sex Life Before and After Marriage," by Wm. S. and Lena K. Sadler. These books may be obtained from the local book stores.

H. In most instances there are definite days each month in which conception is most apt to occur. In the average case this is in the middle third of the menstrual cycle. Keep a record of the dates of the beginning of your menstrual periods and study out your safe and fertile period from the charts I give you.

I. A desirable douche is 2½ per cent sodium bicarbonate; that is, six teaspoonfuls of bicarbonate of soda to a quart of water. It is best to take the douche about fifteen minutes before coitus.

J. The sterility problem may be the easiest or the most difficult. Many factors play a part. For instance, the fault may be on the part of the husband or wife, and the fault may vary from some simple thing such as altered thyroid rate, excessive fatness, leucorrhea; to some major difficulty such as failure of ovulation on the part of the woman, or deficiency of sperms on the part of the man. It is well to realize from the start that considerable time may elapse before success is obtained and one should not become discouraged because pregnancy does not occur during the first few months. Both investigation and treatment will be carried out in an orderly fashion, doing the simple things first and gradually carrying the investigation forward until all the factors that may be inhibiting pregnancy have been overcome.

Endocrine Therapy. Evans and his associates demonstrated the synergistic action of anterior pituitary extract and of the pituitary-like hormone of pregnancy urine. I have observed in my own cases that the combined injections give better results than when the gonadotropic hormone of pregnancy urine alone is used in the pituitary type of amenorrhea, oligomenorrhea, and menorrhagia. It is premature for me to elaborate on the use of the newest and most potent gonadotropic extract yet obtained, that from pregnant mare's serum. This hormone was first used in animal experiments by Cole and Hart[11] in 1930. It is now marketed for use in man under the name of Gonadin (Cutter Laboratories). Davis and Koff[12]

TREATMENT IN STERILITY

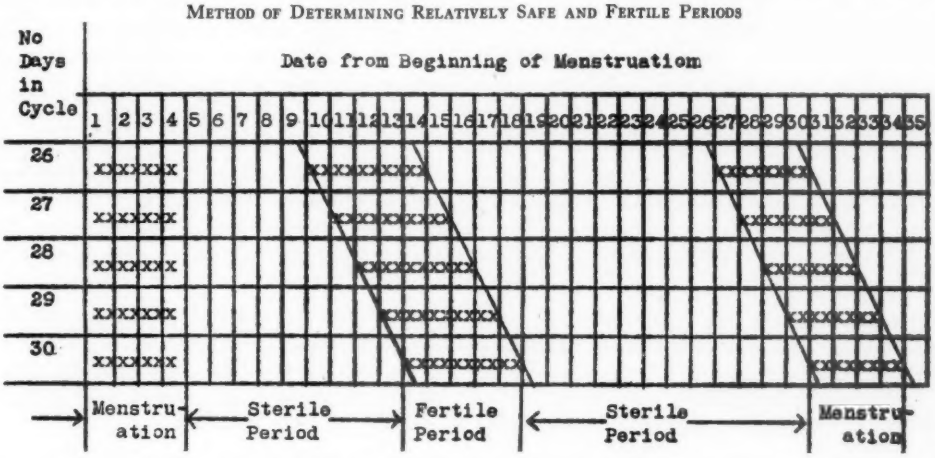
	DATE
CONSTITUTIONAL	
ENDOCRINE	
A. Thyroid	
B. Estrogenic therapy	
C. Gonadotropic pre-pituitary hormone	
D. Gonadotropic hormone from pit. gland	
E. Gonadotropic hormone of pregnant mare's serum	
ALKALINE DOUCHE	
TUBAL INSUFFLATIONS	
UTERINE SOUNDING	
IRRADIATION	
VITAMIN "E"	
INSULIN	
STEM PESSARY	
ARTIFICIAL INSEMINATION	
COITUS DURING MENSTRUATION	
IODIZED OIL INJECTIONS	
ELLIOTT TREATMENTS OR PELVIC DIATHERMY	
COMBINED TUBAL INSUFFLATION AND PELVIC DIATHERMY OR ELLIOTT TREATMENTS	
VAGINAL PESSARY	
IRRADICATION OF VAGINAL INFECTION	
A. Trichomona vaginalis	
IRRADICATION OF CERVICAL INFECTION	
A. Removal of cervical polyp.	
B. Conization	
C. Cauterization	
LAPAROTOMY FOR SOME PLASTIC OPERATION	

administered this hormone intravenously to over fifty women who were subsequently subjected to laparotomy. They found that ovulation had occurred in about one-half of the patients injected. In the majority of cases the ovaries were removed eighteen to thirty-six hours following the administration of this new gonadotropic substance and recent corpora lutea were found. In three cases of sterility studied by Davis and Koff pregnancy followed the induced ovulation. Novak points out that the experiments and observations of Davis and Koff are subject to criticism. The fact remains, however, that a physiologically new and exceptionally potent gonadotropic hormone has been made available. Whether this new hormone will prove as valuable as the first reports indicate is problematical. Certain it is that to date there has been universal disappointment from the glandular treatment of amenorrhea and oligomenorrhea in sterility. Even if the menses are restored, a relapse occurs when the treatment is stopped and, of course, the mere restoration of menses does not mean fertility unlss ovulation actually occurs.

Irradiation of the Ovaries and Pituitary Gland. The beneficial and the harmful effects of irradiation of the ovaries and pituitary gland are controversial. Mazer states that it is the most effective single agent in the treatment of amenorrhea, oligomenorrhea, and menorrhagia. He recommends a course of three weekly treatments to each area in doses of 50 to 80 R. He repeats the course in two to three months if necessary. Mazer reports thirty-five of thirty-eight cases of amenorrhea cured by this method. Kaplan[13] reports the re-establishment of menstruation in seventy-six of 128 patients treated by irradiation, forty-four of which subsequently became pregnant. Kaplan states that there have been no instances of abnormality in the off-spring, providing the irradiation was given before any pregnancy existed. He advises doing a Friedman test to rule out pregnancy before starting X-ray therapy. Other authors state that irradiation is a two-edged sword and may result in permanent arrest of menstrual function.

Insulin in the Treatment of Menstrual Disorders in Sterility. In the mal-nourished and under-weight, the use of insulin to supplement pancreatic function results in constitutional improvement and restoration of glandular activity in selected cases. It is of particular value in cases of primary ovarian failure.

METHOD OF DETERMINING RELATIVELY SAFE AND FERTILE PERIODS


No Days in Cycle
Date from Beginning of Menstruation
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
26
27
28
29
30
Menstru-ation
Sterile Period
Fertile Period
Sterile Period
Menstru-ation

The Stem Pessary. Weir has recently championed anew the use of the stem pessary. He states it is of special value in nulliparous women with severe dysmenorrhea, scanty delayed periods, and an infantile uterus. Most authors still feel that the method is obsolete.

The Correction of Menstrual Disorders in Sterility by Operations on the Ovaries. Conservative operations on the ovaries have recently been advocated to correct ovarian dysfunction. Stein[14] reports nine cases of sterility due to bilateral polycystic ovaries. In five of these, amenorrhea was present and in all the periods returned and pregnancy occurred after bilateral wedge resection of the ovaries. It is noteworthy that Stein was able to trace thirty-two patients on whom he had performed wedge resection of the ovaries for follicle cystosis without a single recurrence.

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LENGTH OF CYCLE DAYS	LENGTH OF FERTILE PERIOD DAYS	DURATION OF FERTILE PERIOD DAYS NUMBERED FROM BEGINNING OF MENSTRUATION
22	9	7th to 15th, inclusive
24	9	8th to 16th "
26	10	8th to 17th "
28	10	9th to 18th "
30	10	10th to 19th "
32	11	10th to 20th "
22–25	11	7th to 17th "
24–27	11	8th to 18th "
26–29	12	8th to 19th "
28–31	12	9th to 20th "
30–33	12	10th to 21st "

The Use of Human Pregnancy Serum in Sterility. A. B. Hunt[15] administered human pregnancy serum intramuscularly to a small series of cases of menorrhagia. He obtained pregnancy by this procedure in two out of three cases of long-standing sterility.

Sperm Immunity. This is a doubtful entity. Globur,[16] however, reports three cases in which the wife's serum agglutinated the husband's spermatozoa. The immunity reaction disappeared and pregnancy followed after a long period of sexual abstinence. The possibility of natural sperm immunity is also suggested by temporary artificial biologic sterilization in the human. Escuder reports that with Baskin's technique (giving three intragluteal injections each of an entire ejaculate at intervals of seven days) he can produce sperm immunity in the female which lasts twelve to fifteen months.

Artificial Insemination. This is becoming an increasingly popular procedure. It is of value when a husband is impotent or sterile, in which instance semen from a borrowed donor is used. It is also of value in transferring the husband's semen into the cervix when natural cervical insemination is lacking or when the vaginal secretions are inimical to his sperms. The technique is as follows: A donor is selected who has a negative Wassermann, a negative history of gonorrhea, and a heredity which is relatively free of unfavorable factors. Semen is collected by ejaculation into a sterile flask. Part of the semen is used for study of the spermatozoa. The rest is used for insemination within an hour. The semen may be squirted against the external os from a sterile syringe with a large bore needle, or injected into the upper portion of the cervical canal by means of a pipette or an ordinary Rubin cannula, or applied to the cervix within a rubber cervical cap. One cc. of semen is used. As a rule, intrauterine injections are to be avoided as they cause uterine contractions, pain, and expulsion of the semen. Immediately after the procedure, the hips of the patient are elevated and the patient is instructed to stay recumbent for about half an hour. The inseminations should be given at a time when ovulation is to be expected. Usually several inseminations are done per month, on approximately the tenth, twelfth, and fourteenth day of the cycle and repeated monthly until pregnancy occurs. Seguy reports sixteen cases of artificial insemination with seven pregnancies. Seymour[17] has just reported an interesting experience with insemination. He was attempting to demonstrate that his patient had motile normal-appearing sperms which were incapable of fertilizing an ovum. Sixteen women whose husbands were sterile, were inseminated with his patient's semen repeatedly and none became pregnant. His patient's wife and the same sixteen women were then inseminated with a known fertile donor's semen and the sixteen women and his patient's wife all became pregnant. Seymour and Koerner[18] have recently discussed the medico-legal aspect of artificial insemination. I have, personally, only used artificial insemination one time, transferring the patient's own husband's semen into her cervical canal in a case of long-standing sterility. Much to my surprise, the patient became pregnant following this one insemination.

Vaginal Acidity. Singleton and Hunter report that in twenty-nine cases where incompatibility existed because of vaginal acidity, the use of a 2.4 per cent sodium bicarbonate douche taken fifteen minutes before coitus resulted in pregnancy in eight cases. Coitus during menstruation is another method employed of facilitating pregnancy when the vaginal secretions are hostile. I advised this procedure to one of my patients and in this instance pregnancy resulted.

Cervical Dilatation. Many authors report on the value of weekly or twice monthly dilatations of the cervix empirically in the treatment of functional sterility. Thus, Tongeren reports that of eighty-eight sterile women treated by sounding the uterus, seventy-three became pregnant within a year. Birnberg states that cervical dilatation is of especial value in the pin-hole and eccentrically placed external os.

Tubal Insufflation. There seems to be a universal agreement that tubal insufflation is a very valuable therapeutic as well as diagnostic procedure. Thus,

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Rubin reports 24.5 per cent of pregnancies in 1,620 insufflations. Insufflation was the only treatment employed in 247 of the 398 cases that became pregnant. Ferguson in a much smaller series reports that eighty-four out of ninety-eight patients became pregnant after simple insufflation. Certainly the combination of Elliott treatments and repeated tubal insufflations is rational therapy and may be expected to open a certain percentage of occluded tubes. Kotz and Parker report that thirty-six of fifty-four cases of sterility with closed tubes became pregnant after repeated insufflations.

Iodized Oil Injections as a Therapeutic Procedure. Many authors state that they have been able to demonstrate the patency of the tubes with lipiodol injections when the Rubin test was negative, and that frequently pregnancy followed the procedure. White reports twenty-two pregnancies after sixty-two lipiodol injections.

The Operative Cure of Sterility. Space does not permit a detailed discussion of the various operations that have been performed to overcome sterility. The operations most commonly performed in the sterility problem are:

(a) Circumcision of the fimbriated end of the tube.

(b) Salpingostomy.

(c) Partial resection and end to end anastomosis.

(d) Resection of isthmic portion of tube and reimplantation in the uterus.

(e) Transplantation of ovary into cornua of uterus.

An analysis of results in large series of cases certainly indicates that such operations should not be frequently done and only on clear-cut indications. Tubal occlusion must be bilateral and preferably at the fimbriated end in at least one tube. Greenhill[19] analyzed the results of 818 plastic operations on the tubes. Fifty-four pregnancies resulted, an instance of 6.6 per cent or one pregnancy to every fifteen operations. Since only thirty-six babies were delivered, the incidence of actual successful results was only 4.4 per cent or one baby for every 22.5 operations. Salpingostomy is the operation that has been performed most frequently and with the highest percentage of successes. VanGraff[20] collected information about 568 salpingostomies and found that pregnancy occurred in 10.5 per cent. There resulted, however, only 2.8 per cent of live babies. Abortion and ectopic gestation occurred all too frequently. The figures for tubal implantation are even less encouraging. Runge states that Kustner obtained data on ninety-three such operations. Eight full-term pregnancies (8.6 per cent) and two miscarriages resulted. The favorable results of partial ovarian resection in sterility reported by Stein have been previously cited.

In this paper much emphasis has been placed on thorough investigation and specific therapy for known causative factors in the problem of sterility. In actual practice, both the husband and wife are often found to meet all the requirements for fertility, without pregnancy occurring. In these infertile couples, certain procedures had been used empirically with a high percentage of successes. Chief among these are:

(a) Thyroid in small doses, even with a normal B.M.R.

(b) Repeated tubal insufflation immediately after or preceding coitus.

(c) Uterine sounding (cervical dilatation).

(d) Estrogen therapy to supplement ovarian function (theelin or emmenin).

(e) Vitamin "E".

In closing, I should like to emphasize the need for patience and thoroughness, and the value of a definite plan of investigation and a definite plan of treatment in the management of sterility.

BIBLIOGRAPHY

1. Moench, G.L.: A Report of Sperm Examinations Made in Obscure Cases of Sterility, *Medical Journal and Record,* 7:20, 1927.
2. Hyams, Mortimer N.: Uterosalpingography by Interrupted Fractional Injections, *Surgery, Gynecology, and Obstetrics,* 60:224-228, February, 1935.
3A and 3B. Kotz, J., and Parker, Elizabeth: The Clinical Interpretation of the Endometrial Biopsy: Report of Three Hundred Cases, *Endocrinology,* 24:447-461, April, 1939
4. Mazer, C., Israel, L., and Charny, C. W.: The Endocrine Factors in Human Sterility, *The Pennsylvania Medical Journal,* 41:1009-1017, August, 1938.
5. Rock, J., Bartlett, M., and Matson, D. D.: The Incidence of Anovulatory Menstruation Among Patients of Low Fertility, *American Journal of Obstetrics and Gynecology,* 37:12, January, 1939.
6. Shute, Evan: Determination of the Estrogenic Substance in Blood Serum by Means of an Estimation of the Antiproteolytic Power of the Serum, *American Journal of Obstetrics and Gynecology,* 35:977, June, 1938.
7. Venning, E. H., and Browne, J. S. L.: Studies on Corpus Luteum Function I: The Urinary Excretion

of Sodium Pregnandiol Glucuronidate in the Human Menstrual Cycle, *Endocrinology*, 21:711, 1937.

8. Rock, John; Reboul, J., and Snodgrass, A. B.: Electrical Changes Associated with Human Ovulation, *American Journal of Obstetrics and Gynecology*, 36: 733-746, November, 1938.

9 and 10. Zuck, Theodore: The Relation of Basal Body Temperature to Fertility and Sterility in Women, *American Journal of Obstetrics and Gynecology*, 36:998-1005, November, 1938.

11. Cole, H. H., and Hart, G. H. *American Journal Physiol.*, 123, pp. 589-597, September, 1938.

12. Davis, M. E., and Koff, A. H.: The Experimental Production of Ovulation in the Human Subject, *American Journal of Obstetrics and Gynecology*, 36: 183, August, 1938.

13. Kaplan, Ira. I.: A Study of the End-Results of the Treatment of Amenorrhea and Sterility by Radiation of 128 Married Women Over a Period of Twelve Years, *American Journal of Obstetrics and Gynecology*, 34:420-430, September, 1937.

14. Stein, Irving: Further Studies in Infertility and Sterility, *Surgery, Gynecology, and Obstetrics*, 67:731-739, December, 1938.

15. Hunt, A. B.: Use of Human Pregnancy Serum in Treatment of Sterility: Report of Three Cases, *Proceedings of Staff Meeting Mayo Clinic*, 13:81-84, February 9, 1938.

16. Globur, L. J.: The Treatment of Sterility, *Southern Medical Journal*, 31:981-987, September, 1938.

17. Seymour, F. I.: Sterile Motile Spermatozoa Proved by Clinical Experimentation, *Journal American Medical Association*, 112:1817-1820, May, 1939.

18. Seymour, F. I., and Koerner, A.: Medicolegal Aspect of Artificial Insemination, *Journal American Medical Association*, 107:1531-1534, November 7, 1936.

19. Greenhill, J. P.: Evaluation of Salpingostomy and Tubal Implantation for the Treatment of Sterility. *Journal of Obstetrics and Gynecology*, 33:39-50, January, 1937.

20. VanGraff, E.: *Journal Iowa State Medical Society*, 26:31, January, 1936.

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PILONIDAL CYSTS.

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The existence of pilonidal cysts as a clinical entity was first described by A. W. Anderson[1] in 1847. Textbooks of a much later date usually fail to mention it, however, and then only to confuse it with other conditions in the same region.

The name "pilonidal cyst" was suggested by Hodges[2] in 1882, because of the frequent presence of hair in the depths of the cavity. Other names have been used as synonyms, such as sacrococcygeal cyst, sacrococcygeal dermoid, and pilous cyst.

There have been various theories proposed to account for the origin of these sinuses and cysts, but there are three which are more generally accepted today, each having its share of proponents.

The most logical, and the one with probably the largest following, is the theory of Tourneaux and Herrmann,[3] presented in 1887, and modified later by other writers. They believed that the embryonic neural canal is attached to the skin, an observation which has actually been demonstrated. As the fetus develops, the spine grows more rapidly than the surrounding tissues, and, as a consequence, the thread-like end pulls on the skin, and forms a U-shaped cord around the tip of the coccyx. The tip finally reaches to the third sacral vertebra on the skin surface. Normally this cord atrophies after the fifth fetal month, but occasionally it remains, and, as it is composed of stratified squamous epithelium, it may develop a cyst or sinus containing the structures found in surface skin, that is, sweat and sebaceous glands and hair. For many years it was contended that hair follicles and the various glands were found in abundance in these cysts, but later investigators have been unable to substantiate this observation with any degree of frequency.

A second explanation is that brought out by Lannelongue[4] in 1882. He demonstrated that the skin over the coccyx is tightly adherent in the embryo, and that, as the mesoblastic structures surrounding this increase in thickness, the natural result would be for the skin to be pulled in at this point, forming a dimple. He argued that an exaggeration of this dimple would result in sinus formation, and if the epithelium over the external opening proliferated, it would occlude the mouth and form a cyst. Since epidermal epithelium lined the resulting cyst, then the normal appendages of skin would be found here too. This sounds like a very plausible explanation,

and is not altogether inconsistent with the first, because the embryonic skin adhering to the coccyx may be pulled even further by a filum of the neural canal, postulated in the first theory.

The third idea is the one believed in by the majority of clinicians. It was first advanced by Lamadrid[5] in 1872, and explains the presence of pilonidal cysts by stating that it is the result of an incomplete closure of the lateral halves of the dorsum of the fetus during its development. This theory does not account for the presence of hair and sebaceous matter as readily as the others unless one states that the incomplete coalescence is accompanied by an inclusion of epithelial rests. Another objection to this belief is the fact that spina bifida and other congenital malformations are not very often found concomitantly with pilonidal cysts.

The pathology of these cysts is well known, although it is occasionally confused with other conditions. As a rule, they do not make themselves evident until an age of eighteen to twenty-five years. There is no hereditary influence apparent in the majority of cases. They are much more frequent in hirsute individuals and in males. Ravdin and Johnston[6] in 1935 reported that 75 per cent of their cases were in men.

Frequently, attention is first drawn to them by an acute infection, but sometimes it is manifested by a persistently draining sinus over the coccyx. Trauma often plays a part in the initiation of symptoms.

In examining a quiescent cyst, one will find a sinus in the mid-line, somewhere between the coccyx and the anal canal. The sinus is directed upward. In the depths of the sinus there is a cyst, which, when exposed, presents a bluish discoloration. It is lined by stratified squamous epithelium, and typically contains hair and sebaceous material, but rarely anything else. In many cases, however, the hair will not be present because it has been destroyed by repeated infection and lost in drainage. Occasionally cysts, outwardly resembling these, have been found to contain spinal fluid, or dermoid contents, such as teeth, bone, etc., but if such are present, they should be classified as a separate entity, and not as pilonidal sinuses or cysts.

In a cyst of long standing there may be sudsidiary openings near the region of the original sinus, but laterally placed. These are due to re-infections with spontaneous or operative drainage.

Not all sacrococcygeal cysts have sinuses. In early childhood there may be no external opening, and it is believed that changes wrought by puberty, such as marked growth of hair, cause them to become infected more easily. One in a while, even in adults, the condition is characterized by a smooth swelling over the sacrum and coccyx.

When acutely infected, they become swollen and tense, and are often mistaken for a furuncle or abscess. Other conditions with which a pilonidal cyst may be confused are fistula-in-ano, sacrococcygeal dermoid, abscesses in infected hair follicles, meningoceles, infected sebaceous cysts and perirectal and ischiorectal abscesses.

As a differential point, a probe passed into a fistula-in-ano will be directed toward the anus or anal canal, whereas a pilonidal sinus is directed upward toward the spine. The contents will differentiate them from the other conditions, but the characteristic location, and the presence of the sinus tract is diagnostic in most cases. A history of repeated infections in this region is also helpful in the diagnosis.

The treatment of pilonidal cysts depends largely on their condition at the time they are seen. If they are acutely infected with definite abscess formation, the natural mode of therapy is to incise and drain. This is usually done with greater ease under a general anesthetic, such as nitrous oxide and oxygen, or an intravenous anesthetic, such as evipal or pentothal sodium. The incision is made over the point of fluctuation, the contents evacuated, and the walls of the cyst cauterized with phenol. An iodoform drain is then placed in the wound and removed several days later. After this, smaller and smaller drains are inserted until healing takes place. In some instances this will effect a cure, but usually, after the infection has cleared up, a sinus will remain.

Occasionally dilatation of the sinus during the acute stage will be sufficient for drainage.

In the quiescent stage, the operation elected usually is that of block disection either with knife or electrocautery. In this, an elliptical incision is made about the sinus openings, with a wide margin to insure the removal of all the affected tissue. Usually a dye, such as methylene blue, is first injected into the sinus opening, in order to better identify the ramifications below. A blunt needle or syringe nozzle is used for the purpose, as a sharp needle might penetrate the uninvolved tissue and confuse the operator.

After dissecting out the whole area with a good margin of surrounding tissue, several avenues of

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concluding the operation may be followed. If there is some infection still present, the wound is packed open and allowed to heal by granulation. This is, of course, a long drawn out procedure of six to twelve weeks, necessitating many painful dressings, and frequently resulting in a large painful scar. Only too often complete healing does not take place, and Carneal[7] has suggested that the reason for this is not because some epithelium has been inadvertently left in the wound, but because of poor circulation resulting from the massive, dense scar tissue.

Another procedure that may be followed if the infection is slight, is that of primary closure, with a small rubber tissue or silk worm gut drain placed in the depth of the wound lengthwise, so that the ends project at the extremities of the incision when it has been closed.

One of the difficulties encountered here is the obvious trouble one would have in approximating the skin edges when such a large block of tissue has been removed. Several suggestions have been offered to overcome this.

Some surgeons make two parallel incisions in the buttocks several inches away from the wound in order to relax the edges enough for approximation. These secondary incisions, although they spread apart, usually heal rapidly with a soft pliable scar, because they were made in uninfected tissue, and have a base of muscle.

Lahey,[8] in 1932, advocated another procedure in closing these large wounds. His method is to make one parallel incision to one side of the defect, and to make a pedicle graft of the intervening tissue which would include skin and fat. This pedicle graft is transferred to the large wound and sutured to the opposite side and to the fibrous tissue covering the sacrum. He leaves an opening, of course, on the side where his second incision was made, but this heals readily for the same reason described in the preceding method.

Dissatisfied with the protracted post-operative care, and the loss of time for the patient entailed in the procedures just described, several men have devised new types of operations and cauterization therapy, some of them giving astonishingly good results.

Block and Greene,[9] in 1938, described a treatment by incision of the fistulous tracts and packing them lightly for several days. Then they remove the packing, and cauterize with a modified Carnoy's solution for five to ten minutes, while protecting the skin with petrolatum. An iodoform gauze is then placed in the wound. This cauterization is repeated every three to four days until the wound has healed. From eight to twenty-two treatments are necessary, covering a period of four to ten weeks. Their average number of cauterizations is sixteen. Although this treatment is lengthy, their patients have no loss of time from work, and very little discomfort. Furthermore, both infected and quiescent cysts may be treated in this manner.

Ferguson and Mecray,[10] in 1937, using more generally accepted methods, but, by special handling, obtained excellent results with a minimum loss of time. In the infected cases they incise and drain under local anesthesia. They apply gauze packing and use hot moist dressings. On the third day the packing is removed, and healing allowed to take place, usually requiring from two to three weeks.

When this has occurred, they do the second operation. In this, the area is anesthetized with a 1 per cent novocaine solution, to every ounce of which has been added eight drops of one to one thousand adrenalin solution. The cyst and sinus tracts are then excised, without much tissue removal, as complete control of infection enables them to excise all the affected parts by a narrow cylinder of tissue. Colored solutions are not used, as these authors feel that often the solution leaks into normal areas, and obscures landmarks. They identify the cyst by its bluish discoloration or by its contents, and the sinus tracts by the presence of denser and more compact lobules of fat surrounding them. They close the wound immediately with buried catgut sutures to insure obliteration of dead space. Deep stay sutures of alloy steel wire are inserted to further close the wound. The eradication of dead space they consider one of the most important points, and the preliminary control of infection the other. In their series they have obtained 92 per cent cures on first operation, that is, the procedure after the initial incision and drainage. The average healing period after excision is 17.4 days—with not more than two days lost from work. Sometimes the incision and drainage is not necessary, and occasionally drainage is effected through dilatation of the sinus tract.

The final method of treatment to be described is one advocated by Carneal,[7] of New York. He felt that too much tissue was removed in the old block dissection, and that hospitalization was too prolonged. Realizing, however, that caustics had been

used before without very successful results, and yet believing that in this mode of treatment lay possibilities of rapid and easy recovery, he tried several types of escharotics not in common use. The most successful, and one that he has used with excellent results in over two hundred cases, is concentrated potassium hydroxide. This may be obtained by exposing a stick of pure potassium hydroxide to the air in a glass container for twenty-four to forty-eight hours, to allow a certain amount of liquefaction to take place. The resulting liquid is nearly a 100 per cent solution of the caustic.

The plan of treatment is similar for infected and clean cases. In the former, incision and drainage is done in the usual manner, and the cavity swabbed with potassium hydroxide, precautions being taken which will be described later. After infection is controlled and the wound has healed as far as it will do so, the subsequent treatment is the same as for quiescent cysts. It might be said here, though, that a majority of the pilonidal cysts will heal completely after the above regime is followed.

The clean cases are treated by Carneal in the following manner: A 2 per cent solution of novocaine is injected about the lesion. All sinuses are opened on a grooved director, or a simple incision down to the cysts may be made. The cyst is then dissected out, and all communicating sinuses probed and incised. In order to protect the surrounding skin, gauze sponges, soaked in a 3 per cent acetic acid solution, are placed about the wound. The concentrated potassium hydroxide solution is now applied to all parts of the wound with a cotton applicator, and allowed to remain for two or three minutes. After this the potassium hydroxide is neutralized with sponges soaked in 3 per cent acetic acid, and the cavity packed with iodoform gauze. In two or three days the packing is removed, and hot Sitz baths twice a day ordered for the patient. In a week's time the granulating wound is touched with silver nitrate for stimulation, and again in another week. Healing takes place with great rapidity, and is usually complete in three to five weeks. Obese individuals take longer because of the greater amount of tissue which has to be incised at the time of the original operation. Only a few days are lost from useful activity, and even if healing does not take place completely in this time, as happens in a rare case, the persistent sinus is small and the procedure may be repeated in the office with no extra loss of time.

I have tried this method on several cases in recent months with gratifying results, and I believe that it is a method which deserves consideration, inasmuch as it shortens the healing period, gives better permanent results on the average than the en bloc dissection, and is much easier on the patient. It may be used on clean and infected cases with equal ease, with almost uniformly good results in the former and a high percentage of cures in the latter.

I have presented various methods of treatment in common use, as well as some of the newer procedures, and believe that a certain amount of judgment is necessary in selecting the therapy best suited to each particular case. It is my opinion that care in carrying out the treatment, especially some of the recently advocated ones, will bring about a better outlook for the patients who suffer from this unpleasant, although not usually dangerous, complaint.

SUMMARY

1. A review of the various theories proposed to account for the origin and development of pilonidal cysts is offered.

2. The pathology and differential diagnosis is briefly discussed.

3. The various methods of treatment in common use are described. Cauterization therapy, purely operative procedures, and combinations of the two are included.

4. Especial emphasis is given to a recently advocated type of treatment, proposed by G. U. Carneal, of New York, because of its simplicity and efficacy.

REFERENCES

1. Anderson, A. W.: *Boston Med. and Surg. Jour.*, 36:74, 1847.
2. Hodges, R. M.: *Boston Med. and Surg. Jour.*, 103: 485, 1882.
3. Tourneaux, F., and Herrmann, G.: *Jour. de l'Anat. et de la Physiol.*, 23:498, 1887.
4. Lannelongue: *Bull. et Mem. Soc. de Chir. de Par.*, 8:185-194, 1882.
5. Lamadrid, J. J.: *Philadelphia Med. Times*, 3:699, 1873.
6. Ravdin, I. S., and Johnston, C. G.: *Amer. Jour. Med. Sc.*, 190:280, 1935.
7. Carneal, George U.: Personal Communication. Un-

XUM

published report, read at Presbyterian Hospital Surgical Conference, May 25, 1939.
8. Lahey, F. H.: *Surg., Gyn. and Obst.*, 54:521, March, 1932.
9. Block, L. H., and Greene, B. L.: *Archives of Surg.*, Chicago, 37:112, July, 1938.
10. Ferguson, L. K., and Mecray, P. M., Jr.: *Am. Jour. of Surg.*, 36:270, April, 1937.

SULFAPYRIDINE IN THE TREATMENT OF PNEUMONIA.*

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The application of sulfanilamide and its related compound sulfapyridine to the treatment of bacterial infections is one of the romances of our medical age. The importance of this chemo-therapy may well be compared to the use of insulin in diabetes or to the treatment of pernicious anemia with liver extract.

In their search for a substance having a more specific effect upon the pneumococcus than that exerted by sulfanilamide, Ewins and Phillips[1] produced sulfapyridine in England last year. They showed it to be effective against various types of the pneumococci in experimental infections in mice.

In July, 1939, Evans and Gaisford,[2] of Birmingham, England, reported a series of 100 cases of pneumonia treated with sulfapyridine, with a mortality of 8 per cent as compared with a mortality rate of 27 per cent in a control group of 100 untreated cases.

Two independent series of cases were reported by Americans in February, 1939. Flippin[3] and others, of Philadelphia, reported a series of 100 cases of lobar pneumonia treated with sulfapyridine with a mortality of only 4 per cent.

Barnett[4] and others, of St. Louis, reported encouraging results in the treatment of pneumococcic infections in children.

Long and Wood,[5] of Johns Hopkins, in September, 1939, reported 100 cases of pneumonia treated with sulfapyridine with a 4 per cent mortality.

Nelson[6] has reported a series of fifty cases from the Medical College of Virginia, under the supervision of Dr. Harry Walker, in which the mortality rate was 12 per cent. However, with an increase in dosage, as suggested by Long, the last twenty cases were treated without a death.

It is interesting to compare the mortality of pneumonia cases receiving no specific treatment with the mortality of serum treated cases, and of those treated with sulfapyridine. The mortality of pneumococcic lobar pneumonia without specific treatment is about 25 per cent. Of various series treated with serum, the mortality has varied from about 16 per cent to 9 per cent. The series treated with sulfapyridine had a mortality rate of from 12 per cent to 4 per cent. Those cases with a positive blood culture show most convincingly the results of treatment. The usual mortality in such cases is at least double the general mortality rate. The use of serum reduces this mortality about 50 per cent, while sulfapyridine apparently reduces it about 75 per cent.

The mortality in serum treated cases varies from 4 per cent in those treated on the first day of the disease, to over 20 per cent in those treated after the fourth day. Serum is available for the treatment of approximately 66 per cent of the cases of pneumococcic lobar pneumonia.

Sulfapyridine is not nearly so soluble as sulfanilamide and a similar dose in individuals of the same weight may produce marked variations in the blood level. Also, the human body has the ability to conjugate sulfapyridine, in varying amounts, into the inactive crystalline acetylsulfapyridine which precipitates out in the urine and may form calculi or produce hematuria. Long & Wood[5] have found these crystals to be soluble in alkaline solution and have given soda bicarbonate with the sulfapyridine but so far have had insufficient experience to draw any conclusions. The optimum blood concentration appears to be about 4 mgms. per 100 c.c. of blood.

The following dosage is recommended by Long and Wood:[5]

4.0 gms. stat., as soon as the clinical diagnosis of pneumonia is made, followed by 1.0 gm. every four hours (day and night) until the temperature has been normal for forty-eight hours. Then 1 gm. every six hours until resolution is well under way and, finally, 0.5 gm. four times a day until the patient is ready to leave his bed.

If on the day after treatment is started the tem-

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perature is not below 101°, and the free sulfapyridine in the blood is under 4 mgm. per cent, one dose of 0.06 gm. per kilogram of body weight of a 5 per cent solution of sodium sulfapyridine is given intravenously.

In seriously ill patients such an intravenous injection is given at once and repeated in four to six hours, at the same time beginning oral treatment with 1 gm. sulfapyridine every four hours.

In the case of infants and young children the dose advised is 1½ grains of sulfapyridine per pound in the twenty-four hours, giving about half the estimated twenty-four hour amount as the first dose.

The response of patients adequately treated is often most dramatic, the temperature dropping to normal within eighteen to forty-eight hours after starting treatment and usually remaining normal. It is most important not to discontinue treatment until resolution is complete, as relapse may occur with a spread of the lesion. On account of the nausea produced by sulfapyridine there is a great temptation to stop the drug as soon as the patient seems better. While very trying, the nausea does not as a rule prevent retention of the drug. The use of one-half grain phenobarbital one-half hour before each dose of sulfapyridine is helpful in some cases. If there is much vomiting, glucose in saline should be given intravenously. In rare cases it may be necessary to resort to the intravenous route. Whitehead and Carter[7] overcame nausea in three cases by using the oxygen tent one-half hour before and one-half hour after each dose of the sulfapyridine. For the intelligent specific treatment of lobar pneumonia it is most important that we have a blood culture, typing of sputum, and a complete blood count upon each patient before starting treatment. Blood cultures and typing of sputum are often unsatisfactory after specific treatment has begun. The same toxic effects may occur from sulfapyridine which have been described following the use of sulfanilamide. They are less common, however, with the exception of the nausea and vomiting, which are much worse, and the formation of renal stones. Renal calculi or gross hematuria demand the immediate withdrawal of the drug.

Cyanosis occurs less frequently than with sulfanilamide and, when it does occur, is less intense. Hepatitis, hemolytic anemia, and agranulocytosis may occur but their occurrence is rare.

Frequent examination of the sulfapyridine level in the blood should be made and daily blood counts and urinalyses should be available so that toxic effects may be discovered promptly.

While the use of sulfapyridine in the treatment of pneumonia apparently gives the lowest death rate so far attained, it will not necessarily replace the serum treatment. A word of warning is necessary as to the indiscriminate use of this drug. Until improvements are made eliminating the toxic nausea and vomiting, and the danger of renal calculi with kidney failure, we feel that its use should be restricted, so far as the general practitioner is concerned, to those cases of pneumonia for whom serum is not available, unless the case is in a hospital under careful observation, where blood cultures, daily blood counts and urinalyses, typing of sputum and estimation of the blood concentration of sulfapyridine may be carried out.

It has been suggested that every case of lobar pneumonia be started on sulfapyridine as soon as the clinical diagnosis has been made, the sputum taken for typing and the blood for culture. At the end of the first day, if there has not been a critical drop in the temperature to 101° or lower with an improvement in the patient's general condition, serum treatment should be begun, if available.

Wood and Long[8] have shown that the action of sulfapyridine is bacteriostatic and that the final recovery from pneumonia depends upon phagocytosis. As the specific sera aid phagocytosis by their action upon the capsule of the pneumococcus, it seems logical to assume that a combination of serum with sulfapyridine will become the treatment of choice. Smaller doses of these two specific remedies may act synergistically and objectionable features may in this way be overcome. Certainly the intelligent use of sulfapyridine should result in a marked decrease in the mortality of pneumonia.

REPORT OF CASES

Case 1. A white boy, aged six and one-half years, contracted a cold on March 12, 1939. On March 14th he had an elevation of temperature to 102 but his chest was negative. On March 16th his temperature reached 103 but there were still no physical signs of consolidation. On March 17th, at 9 A. M., his temperature was 105° and definite signs of an early lobar pneumonia of the left lower lobe were made out. He was started on sulfapyridine 1 gm. at 10 A. M., 1 gm. at 2 P. M., and 0.5 gm. each four hours thereafter. His temperature dropped to normal

by midnight (fourteen hours) and remained normal thereafter. The drug was discontinued after three days. No toxic symptoms developed.

Mortality rates are not very helpful in evaluating the drug in children as the rate of lobar pneumonia in infants and young children is only about 5 per cent.

While this case apparently made a very dramatic response to the drug, it is quite possible that his pneumonia, which was discovered on the 17th, began on the 14th and that he had a three-day crisis which was not due to the sulfapyridine. No sputum was obtainable and culture from a throat swab was negative for pneumococci. The leucocyte count was 27,800. While the clinical signs were characteristic of lobar pneumonia before and after the crisis, we did not confirm the diagnosis by X-ray.

Case 2. A white female, aged forty-two, developed influenza on March 11, 1939. On March 16 she showed evidence of beginning consolidation of the left upper lobe and typing of her sputum revealed a Type XV pneumococcus. She was started on sulfapyridine with a prompt fall of her temperature to normal in eighteen hours. However, the temperature climbed back to 102 at the end of twenty-four hours and continued to run a septic course in spite of sulfapyridine. She developed severe nausea and vomiting and marked depression and after five days she was admitted to the hospital March 21st. Sulfapyridine was discontinued and after seven days in the hospital her temperature became normal. We were unable to secure an estimation of the blood level of sulfapyridine in this case and so we cannot tell whether we maintained a sufficiently high concentration in the blood or whether this was a case in which it was unsuccessful in spite of adequate dosage,

Case III

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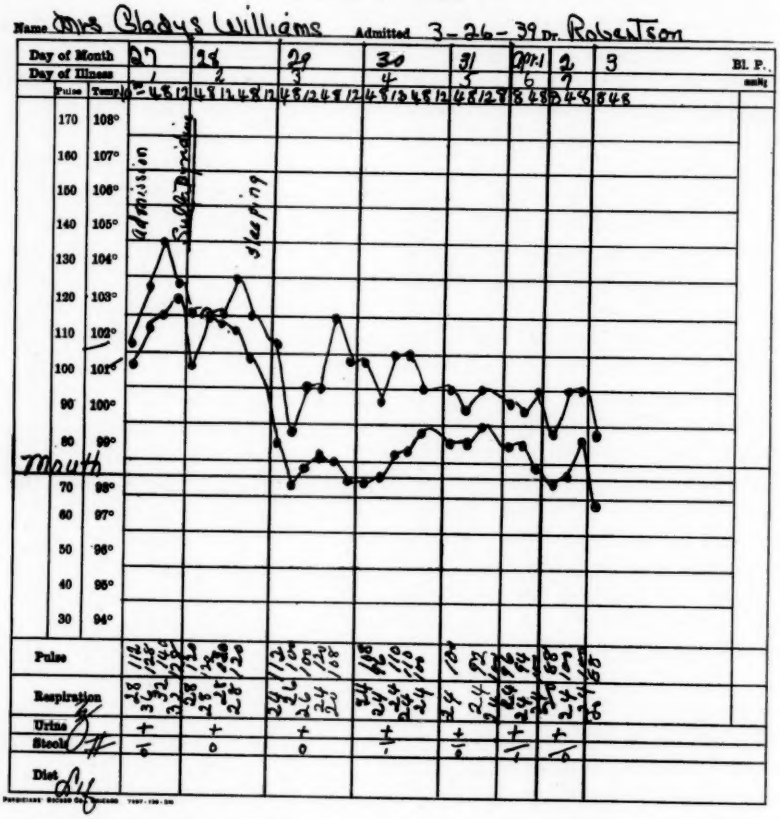

but as this patient only received 15 gms. of sulfapyridine and failed to retain a number of doses, she probably failed to receive a sufficient amount of the drug. Intravenous therapy would have been indicated in this case.

Case 3. A white married female, aged twenty-eight, who had previously been in good health was taken acutely ill on March 23, 1939, with chills, fever, nausea and vomiting. On March 25th she developed cough and pain in her left side. On March 26th a diagnosis of pneumonia was made by her family physician and the next day, March 27th, she was admitted to the King's Daughters' Hospital. Physical examination showed rales and tubular breathing over the lower part of the left upper lobe, and the X-ray diagnosis was lobar pneumonia of the left upper lobe. Blood examination showed 20,000 leucocytes with 92 per cent polys. Pneumococcus typing on the day of admission as well as the next day was negative.

Sulfapyridine was started on the night of her first hospital day, the dosage being 2 gms. every four hours for two doses, and then 1 gm. every four hours. In spite of the fact that the patient was actively nauseated, the medicine was retained. One-half grain of phenobarbital was given one-half hour before each dose of sulfapyridine. In thirty hours the temperature was normal and remained so. Glucose and saline were given intravenously for the nausea, and the sulfapyridine dosage was gradually reduced. Ths case was apparently started on sulfapyridine on the third day of her pneumonia and made a dramatic response without any toxic symptoms except a slight increase of the nausea and vomiting which she had on admission. She received a total of 27 gms. of sulfapyridine.

Case 4. I am indebted to Dr. Kenneth Bradford for the protocol in this case of a seven-year-old girl, a student at the Virginia School for the Deaf and Blind. She developed an acute respiratory infection on March 14, 1939. Four days later her temperature was 105 and physical signs of lobar pneumonia of the left lower lobe were made out. Sulfapyridine was started, 1 gm. followed by 0.5 gm. every four hours for four doses. The temperature returned to normal in sixteen hours, and remained normal thereafter. No X-rays or blood counts were made. This patient weighed forty-eight pounds, and received only 2.5 gms. (37½ grains) of sulfapyridine, so the point may be justly raised as to whether the critical drop was caused by such a small amount of the drug, or whether she had a natural crisis in the course of a pneumonic infection which may not have been discovered until the third or fourth day.

However, a number of successful cases are included in the report of Evans and Gaisford, in which the amount of sulfapyridine used was even less than that given in this case.

BIBLIOGRAPHY

1. Literature supplied by Messrs. May and Baker, Ltd., of England (quoted by Flippen *et al.*).
2. Evans, G. M., and Gaisford, W. F.: Treatment of Pneumonia with (p-aminobenzenesulphonamido) Pyridine; *Lancet,* 2:14 (July 2), 1938.
3. Flippin, H. F., Lockwood, J. S., Pepper, D. S., and Swartz, L.: The Treatment of Pneumococcic Pneumonia with Sulfapyridine, *Jour. Am. Med. Assoc.,* 1939, CXII, 529.
4. Barnett, H. L., Hartman, A. F., Perley, A. M., and Ruboff, M. D.: The Treatment of Pneumococcic Infections in Infants and Children with Sulfapyridine, *Jour. Am. Med. Assoc.,* 1939, CXII, 518.
5. Long, P. H., and Wood, W. B.: The Treatment of Pneumococcal Pneumonia with Sulfapyridine, *Ann. Int. Med.,* 1939, XVIII, 487-512.
6. Nelson, Kinloch: The Treatment of Pneumococcus Pneumonia: To be published.
7. Whitehead, W. M., and Carter, C. C.: Sulfapyridine and Pneumonia, *Jour. Amer. Med. Assoc.,* 1939, CXII, 2594.
8. Wood, W. B., and Long, P. H.: The Mechanism of Recovery from Pneumococcal Pneumonia in Patients Treated with Sulfapyridine, *Ann. Int. Med.,* 1939, XVIII, 612-617.

TREATMENT OF BACILLARY DYSENTERY IN INFANTS.*

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During the past two years the treatment of bacillary dysentery in infants has improved considerably because new drugs are now available which are practically specific for the problems involved. A new concept of therapy therefore is tenable, the results of

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which are so much better that they command the attention and consideration of all of us who treat infants.

Incidence and Mortality: "Diarrhea and enteritis" rank next to prematurity as a cause of infant deaths in North Carolina and this has been true consistently for many years. In 1938 the mortality in North Carolina was higher than in any of the preceding four years. The figures for 1939 are not yet available. The infant mortality rate in North Carolina from this cause is approximately double that for the nation as a whole.

There are very obvious reasons for this to one familiar with the economic and domestic conditions among a large portion of the tenant farmer population. Absence of screens, lack of refrigeration, primitive means of heating water and cooking food, and pollution of soil by human excreta are the main factors. In the cities of North Carolina the disease is much less frequent and among the people in the higher economic brackets it is all but unknown. The babies of the tenant farmer population are chiefly the ones who succumb to this infection. This situation is not peculiar to North Carolina, but is also familiar to those in other portions of the South, where such economic and domestic situations prevail.

It is apparent to those of us dealing with these infants that these deaths are due to real dysentery infections. Bacteriological diagnoses are not practical for most of us in private practice. For example, A. Graeme Mitchell and *nine* associates report bacteriological diagnoses on 209 patients requiring 11,530 plates of media. Positive identification of a pathogenic organism was made in only 49 per cent of the patients. We do not have the assistants, the equipment, or the financial support for such an investigation. Therefore, the objection can be raised, justifiably, that we are not dealing with proved cases of bacillary dysentery. If, however, one prefers to regard our cases as possibly being interspersed with non-specific forms of diarrhea, then the results are even more striking because, if anything, the non-specific forms of diarrhea are even more difficult to control and have a higher mortality than true bacillary dysentery. Also, a bacteriological diagnosis cannot be carried to completion in less than three to five days. Our patients are, as a rule, definitely recovering in this time and we would not in any instance wait for such a diagnosis before starting treatment. Then, too, it has not yet been established that treatment should be varied depending on whether the infecting organism is Flexner, Shiga, Sonne, or some other variety of bacillary dysentery. We confidently expect, in the next few years, such knowledge to be developed in institutions equipped for such study.

The annual epidemic of dysentery infections usually strikes North Carolina in May and June and during these two months the vast majority of cases are seen. They continue through July, August, September and even into October in smaller numbers. In 1936 there were twenty-six infants admitted to our hospital because of dysentery. We had ten deaths and did four autopsies in this group. Four of the deaths occurred in a few hours after admission, making it difficult to get autopsy consent. In 1937, of seventeen patients admitted, we had three deaths and did three autopsies. In 1938, of twenty-three admissions, we had no deaths in patients who had been under our care as long as twelve hours. There were four deaths, one due to bronchopneumonia complicating the dysentery proved by autopsy, the other three occurring from a few minutes to seven hours after admission. In 1939 only six were admitted and two deaths occurred. One died two hours after admission and autopsy could not be obtained. The other was autopsied and showed the pathological findings of a fairly mild dysentery complicated by bronchopneumonia, pertussis and mastoiditis. Many infants were treated as out-patients in 1939 who formerly would have been admitted to the hospital. They were just as sick as any ever treated in the hospital but because of improved methods of management and confidence in these methods, we allowed the patients to come in daily for treatment and observation. Time and again subcutaneous fluids and transfusions were given and the patients allowed to return home promptly afterwards. No harmful effects were ever seen following this procedure. In approximately ninety patients treated forty-seven transfusions were given in this manner. There were no deaths among the out-patients.

Pathology: While we do not have the facilities for accurate bacteriological diagnoses, we have made it a point to study the gross and microscopic pathology of every fatal case in which autopsy could possibly be obtained. These autopsy studies largely have been responsible for our conception of proper therapy.

Most notable of autopsy findings is the gross necro-

sis of the lining mucosa of the large bowel and terminal ileum. Sometimes the mucosa can be wiped off with gloved finger tip. All of it is very swollen, thickened and red, showing areas of hemorrhage, ulceration and large plaques of exudate. The Peyer's patches of the ileum show swelling and ulceration, and also the lymphoid nodules of the large intestine. The ulceration is not limited to these lymphoid structures but occurs also in other areas of the mucosa. The mesenteric lymph glands show tremendous swelling and dusky redness. The spleen and liver show the changes expected in overwhelming toxemia.

It is amazing with what rapidity these changes can occur. For example, one infant was autopsied with a history of only twenty-four hours duration of symptoms, yet we found the mucosa of the large bowel almost completely destroyed. The greatly swollen, hyperemic bowel may readily explain the cessation of stools and signs of ileus which often occur terminally in fatal cases. One could not expect such a bowel to exert effective motor activity.

Symptoms and Signs: The onset is usually sudden. There frequently is extremely high fever and vomiting. Some six or twelve hours may elapse before diarrhea begins. Diagnosis may be rather confusing in these early stages. Not infrequently tetany may appear with chills and cyanosis or the extremely high fever and toxemia may usher in convulsions which can be rapidly fatal unless promptly relieved. The diarrhea is characterized by numerous small green stools often tinged with blood and mucus. There may be as few as ten, or as many as fifty in twenty-four hours. Fifteen to twenty are average. Dehydration usually occurs because of the vomiting, refusal of water, and the fluid loss in the stools. This also can occur with surprising rapidity. If unrelieved acidosis soon follows. Apparently dehydration and acidosis can reach such an extreme degree that irreversible changes occur. Such infants seem doomed to die despite the prompt intravenous restoration of fluids and electrolyte. Such deaths occur within twelve hours after treatment is started, and invariably are cases poorly managed at the onset.

Many times fever and diarrhea are the initial symptoms of an attack and vomiting is minimal. Even in these instances there is early food and water refusal and dehydration occurs rapidly. The diarrhea may begin rather gradually at first with bulky foul smelling stools which later increase in frequency and gradually assume the characteristics of true dysentery.

While diarrhea is the most characteristic symptom of the disease, the frequency of the stools is not a true measure of its severity. Abdominal distention, often with a reduction in the number of stools, indicates an unfavorable course. Sometimes this results from administration of paregoric which aggravates the distention. Not infrequently abdominal distention is so great that the abdomen feels "doughy" like that in generalized peritonitis. The stools may cease altogether terminally; which is easily understood when one examines the bowel at the autopsy table. Therefore, abdominal distention is a more valuable prognostic sign than the frequency of stools.

During the first few days of the disease the appetite is usually poor. Naturally the nausea and tenesmus would interfere with it. Later, in the severe cases, even though tenesmus diminishes, the appetite becomes progressively worse until sometimes extreme anorexia occurs. This may be associated with stomatitis. Both conditions yield to the parenteral administration of vitamin B complex and evidently are manifestations of vitamin deficiency. The high fever, diarrhea, and dehydration of the early phases would naturally tend to deplete the vitamin stores and poor intestinal absorption may easily block their restoration. It is a time when extra large vitamin rations would be desirable yet many factors conspire to deplete them. On the other hand, the majority of these infants, coming from social strata where well-balanced diets are unknown, are physically under par at the onset of the disease.

When the disease enters the chronic stage, which may last for weeks, infants become steadily more emaciated, or at least growth is stopped and there is failure to gain. The abdomen becomes very large and, while there may be not more than three or four stools daily, they are very foul and large in volume. Poor appetite and poor assimilation of food may lead to nutritional edema. Anemia of some degree is universal among such infants and they succumb frequently to respiratory complications.

Treatment: Until the past two years treatment has been based on the concept that this disease is self-limited; that if one maintains the water balance, restores blood corpuscles and serum protein by transfusion, and waits, the vast majority of infants will recover. It is true that most of them will, but the duration of the infection and symptoms may

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vary from two or three weeks, to eight, ten or twelve weeks, under such treatment. Periods of starvation, allowing the gastro-intestinal tract rest from the necessity of digestion and absorption of food, have been regarded as favorably influencing the course of the disease. Often after the period of starvation, when food is offered the diarrhea becomes worse and two, three and even four periods of starvation are resorted to until athrepsia occurs: Often there is no choice in this course of action since digestion and assimilation are at such a low ebb that nutrition is impossible. It is not likely that many physicians still regard bismuth as exerting any influence on the course of the infection, or paregoric doing more than to promote intestinal stasis, distention, and possibly cause some slight decrease in tenesmus.

Starvation is an essential part of the treatment. These infants cannot digest and assimilate food. The giving of formula only promotes a tremendous outpouring of gastro-intestinal secretions, fermentation and distention, and adds volume to the fluid lost in the stools. We starve these infants until the fever subsides, the abdominal distention disappears, and the stools are reduced in frequency to two or three in twenty-four hours. Ordinarily the stools then have a yellow or brown color even though the baby is on a starvation regime, which color itself indicates the slower peristaltic activity of the bowel. After this occurs we start the infants on acid evaporated milk (equal parts of 1 per cent acid diluent and evaporated milk without added carbohydrate).

Adequate fluid intake and starvation will allow most infants to overcome the less severe infection in two or three weeks. It is unusual for one to recover sooner. More severe infections, however, may persist for several weeks or be rapidly fatal in spite of these measures, transfusions, correction of chemical imbalance, control of convulsions and the numerous other measures ordinarily resorted to. What has been needed for many years is a specific for the infection. Sulfanilamide seems to be practically that.

Since the use of sulfanilamide the duration of the infection, following the regime just outlined, has decreased to one week or less, in the vast majority of cases. During the past summer none of our cases has lasted longer than two weeks and practically all have been well and taking acid evaporated milk in one week. Reports on the failure of sulfanilamide to control this disease, we believe, are due to the fact that food was not withheld and fluids were not adequately given. Sulfanilamide alone will not cure the disease. But, with the other factors controlled, we are convinced that sulfanilamide is the deciding factor. We give enough to produce and maintain a slight cyanosis, observing the white blood cells daily or every other day. We continue the administration of sulfanilamide for some three to six days after the stools have become normal and the patient again taking the formula.

The necessity for maintenance of the water balance is essential. Not only must the patient remain hydrated, but diuresis is desirable. Diuresis relieves toxemia but diuresis cannot occur in the presence of diarrhea unless the fluid intake is tremendously large. This problem has been solved.

In 1937 we reported how infants with dysentery will take tremendous volumes of fluid by mouth if given in the form of sweetened Ringer's solution.* Subsequent years have proved this to be true without exception. For example, we recently treated an infant four months old which ingested four liters of Ringer's solution daily for several days in succession, all the while maintaining excellent hydration and producing a tremendous diuresis. We resort to parenteral fluids only when the infant is extremely weak, unconscious, or has such severe stomatitis that it cannot suck the nipple. When patients are first brought in for treatment, occasionally they are so severely dehydrated and nauseated that one or two injections of subcutaneous fluid are necessary. These promote the ingestion of fluid by mouth and seldom need to be repeated. Not only has the oral administration of sweetened Ringer's solution largely obviated the necessity for parenteral administration of fluid to these infants, but it has also made it unnecessary to hospitalize the vast majority of them.

Ringer's solution contains calcium chloride 0.25 gram, potassium chloride 0.3 gram, sodium chloride 0.7 gram, to the liter of solution. Our druggists dispense it in 25X this concentration. The mothers prepare it by adding two and one-half tablespoonfuls and one tablespoonful of ordinary table sugar to a quart of boiled water. Older infants may not take this willingly from the start and in such instances we add some orange juice or coca cola to the first few bottles. We have never seen any harmful effects from either. It is amazing how universally children approve of the taste of coca cola and many times

*_Virginia Medical Monthly_, May, 1937, and Year Book of General Therapeutics, 1937, page 151.

older infants who have been weaned from the bottle will drink the Ringer's solution quite well from a coca cola bottle, especially if the first few bottles have been flavored with it.

We continue giving Ringer's solution between feedings generously for a week or two after feedings have begun. As a rule the fluid intake drops sharply as the diarrhea stops and the formula is increased. Usually the formula is started in feedings of three or four ounces every four hours and increased one ounce to each feeding daily until the infant gets all it will take.

In very severe cases of long duration when there has been essential starvation for days or weeks before we get the patient, we find nutritional edema a common occurrence. This yields quickly to transfusion while transfusion usually is indicated at the same time for an accompanying anemia. Before the use of sulfanilamide we occasionally saw transfusion act almost specifically on the course of the infection. The fever would drop promptly and the stools improve. This was attributed to antibodies thought present in the blood. But this effect was not regular or frequent enough to be expected in any given case. However, the beneficial effects of sulfanilamide are now confidently expected in all these cases.

As mentioned before, most of these infants show some evidence of vitamin deficiency. Most of them are deficient even before they become infected, since their environment is so poor. Cod liver oil concentrate and crystalline vitamins B and C[1] are given all of them orally. In severe cases vitamins B and C are injected intramuscularly[2]. Stomatitis and glossitis which occur frequently in these babies yield promptly to this treatment.

An extreme degree of anorexia is sometimes encountered as a late manifestation of the disease. The vitamin B preparations intramuscularly quickly relieve this. We have not resorted to gavaged feedings in these infants since we have learned the efficacy of vitamin B parenterally.

[1]Crysto-Vibex with Vit. C—P. D. & Co.
[2]Reticulogen and Cevalin, Lilly & Co.

A frequent complication is excoriation and ulceration of the buttocks. This is treated by cleansing the skin with oil and applying an ointment of 3 per cent xeroform in Lassar's paste (without salicylic acid).

Prolapse of the rectum is not unusual in severe cases. This is treated by strapping the nates together with adhesive. It should go all the way round the hips, leaving an opening over the anus.

Severe acidosis when encountered is treated with molecular sodium lactate, orally and parenterally.

Convulsions are treated by chloroform inhalations for their immediate control and by sodium amytal or phenobarbital for long-continued effect. Phenobarbital seems to be a safe effective drug for combating the restlessness and excitement sometimes encountered in these patients.

Since the advent of sulfanilamide it has been unnecessary to feed protein milk, diluted skimmed milk, apple powder, agar-agar, or any of the other numerous feedings sometimes employed. There is no place for such feedings in our present concept of proper treatment.

Summary: To summarize this concept of therapy, we repeat that now we have a specific therapeutic agent, if used in conjunction with adequate fluid administration, starvation, and vitamin restoration. Measures which cause intestinal stasis are counter to nature's efforts for proper drainage of the bowel. Therefore we give no opiates. We feed none of the special foods used in diarrhea because they do not really nourish the patient and simply are so much foreign matter for ejection in the stools. At the same time they promote the excessive secretion of digestive juices, giving greater volume to the stools and increasing their dehydrating tendency. Blood transfusion is used as indicated for anemia or serum protein deficiency.

Successful out-patient management of these cases naturally has done much to lighten the economic burden on a class of people least able to bear the high cost of hospitalization.

SULFANILAMIDE IN THE TREATMENT OF GONORRHEAL OPHTHALMIA.

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During its five years in the spotlight of American medicine, sulfanilamide has inspired more clinical and laboratory investigation than any other development in our generation. Medical as well as lay literature has over-flowed ordinary channels as workers have attempted to evaluate the merits, dangers, and mode of action of this phenomenal healing agent. And yet there remain many questions of a fundamental nature either partially or wholly unanswered.

Only a limited area, therefore, and still debatable, can be surveyed in this summary and report of cases in our own local field of ophthalomology. Our comments, based on little experience other than in the treatment of a limited number of patients, will be found similar to those observations comprising already a vast literature. For a concise summary and bibliography one may be referred to the work of Holman and Duff.[1]

While the mode of action of sulfanilamide is not fully established, it seems reasonably certain that the destruction of bacteria is accomplished by the natural mechanisms of the human body, aided in some way by the drug. The action may be one of bacteriostasis, the leucocytes being a part of the process, even though it is not one of simple phagocytosis; or it may depend on a neutralization of bacterial toxins, allowing free attack on the organisms by all the mechanisms of body defense. It appears certain that response is greater and more rapid during the stages of active tissue change than in the more chronic phases of infection, such as in the already walled-off abscess. The drug in itself appears not to be strongly bactericidal.[2]

The mechanism behind the toxicity and complications of sulfanilamide therapy is likewise incompletely understood. Despite their imposing array, however, it is the consensus of opinion that the drug is relatively innocuous under proper use and careful watch for evidence of serious reactions.[2]

Cyanosis appears to be almost a concomitant of intensive treatment, probably due to methemoglobinemia. This may be relieved by methylene blue or oxygen, or with the discontinuance of the drug.

Acidosis may also occur as a result of intensive treatment and may be largely prevented by giving sodium bicarbonate in equal amounts by mouth, using the added precaution of frequent urine tests to be sure that the pH does not fall below five.

Anemia may occur, though fortunately this is not common. Discontinuance of the drug and transfusions are indicated in such an eventuality.

Agranulocytosis is rare but of serious import when it does occur. As in anemia, it should be anticipated by frequent blood examinations. It is treated with liver extract and blood transfusions, but control is difficult and a fatal outcome may occur.

Skin reactions in the form of a morbilliform or other type of rash are not uncommon; and *fever* may appear, but these are usually controlled by a temporary discontinuance of the drug, or by substituting neoprontosil for the sulfanilamide.

Malaise, psychosis, nausea, toxic neuritis and *deafness* have also been reported.

Jaundice is a warning of possible liver damage, or of hemolytic anemia, and dosage should be stopped.

Contraindications are relative and may merely indicate a change in the method of treatment rather than to preclude it in its entirety. Diminished urinary excretion, anemia, or low leucocyte count may call for alteration of treatment. Sulfur in any form predisposes to sulphemoglobinemia.

Precautions, already indicated, consist above all else in repeated, careful blood and urine examinations. The possibility of idiosyncrasy must also be borne in mind.

While indications for the use of sulfanilamide are still in many respects ill defined, we are all familiar with its effectiveness in general as a therapeutic agent in combating the cocci. This brings us more especially, in this summary, to the consideration of sulfanilamide in the treatment of gonorrheal ophthalmia.

According to Guyton's report,[3] sulfanilamide and its compounds are of definite value in the treatment of gonococcal conjunctivitis (and even trachoma, including blenorrhea, panophthalmitis, cavernous sinus thrombosis, herpes simplex and herpes zoster). He

also considers the local use of a solution of sulfanilamide of potential value.

Bower and Frank[4] stated that sulfanilamide is of great value in the treatment of gonorrheal ophthalmia when combined with adequate local therapy, the best results being obtained when a high blood sulfanilamide concentration is achieved early in the treatment and maintained long enough to secure negative eye smears. Relapse can best be prevented by continuing sulfanilamide in small doses for seven or ten days after the first negative eye smear.

Sulfanilamide, given orally, promptly cured eight small children of ophthalmia, according to Newman.[5] Previous therapy with silver nitrate and argyrol had failed to bring relief.

Michels[6] is very enthusiastic in his estimate of sulfanilamide in the treatment of fifteen cases of gonorrheal ophthalmia in children. Incidentally he points out that the old Credé method of prophylaxis has not been as effective as anticipated and makes a plea for the need of revision to include antisepsis of the Neisserian-infected mother. He observed a reduction of hospitalization of from 28.5 days for a control series of thirty-two patients with gonorrheal ophthalmia to 5.8 days for a series of fifteen patients treated with sulfanilamide. The ages of the patients varied from five days to three years. Of these, two showed corneal involvement; perforation did not result after sulfanilamide was started.

Barbour and Towsley[7] also compared the results obtained in fifteen cases of gonorrheal ophthalmia treated with sulfanilamide with those obtained among fifteen similar patients treated before the drug was used. In only one of the fifteen cases in which sulfanilamide was used did corneal ulcers develop after treatment was begun. These remained superficial and healed rapidly, with little deformity. Corneal ulcers developed in five of the fifteen cases in the control group after treatment was started. In two of these control cases (infants) useful vision was lost in both eyes.

Before the advent of sulfanilamide, using almost constant eye irrigations, atropine, ice packs (or warm, as the case demanded), local disinfectants, "shock" therapy, gonococcus antigen and the like, it took us three weeks to a month to obtain a negative eye smear and culture and to discharge the patient. And there was, especially among adult patients, a distressing toll of lost or impaired vision. Since beginning the use of sulfanilamide we have treated five patients for gonorrheal ophthalmia—two adults and three infants—with fairly successful results.

Treatment consisted of the previous routine—almost identical with that of Michels[6]—plus sulfanilamide in regular doses. Careful, frequent warm boric acid irrigations appear to be of particular value, since the pressure of the exudate when allowed to accumulate tends to cause corneal ulceration. If ulceration was already present, the usual treatment for that complication was added. The dosage of sulfanilamide, tending toward standardization, was approximately fifteen grains for each twenty pounds of body weight per day.

REPORT OF CASES

Our first patient was a baby boy five weeks old, of illegitimate birth, and said to have had a purulent discharge from both eyes for over a month. (The mother was known to have had gonorrhea.) Smears from the baby's eyes were found to be positive for gonococcus. The left eye showed a large ulcer, inferior aspect of the cornea. Routine treatment plus sulfanilamide was instituted and after one week the discharge had ceased. The baby was kept hospitalized another five days during which time the corneal ulcer healed, leaving a fairly large macula. Earlier treatment in this case would probably have prevented corneal ulceration.

The second patient a widow 47 years of age, was admitted on the seventh day of the disease, showing bilateral involvement, with eyelids markedly swollen and copious creamy purulent discharge exuding. Smears showed many pus cells and a preponderance of gram negative intra- and extra-cellular diplococci, typical of gonococcus.

The patient stated that a strange man had bathed in her bathtub and that she had used it later the same evening. (Widows, beware of bathroom fixtures!) Under routine treatment plus sulfanilamide therapy the eyes showed rapid improvement and recovery. The patient was discharged on the tenth day after admission; there were no complications.

The third patient, a premature baby girl, was admitted at two hours of age for incubation service. On the eighth day after admission the left eye appeared to be infected and on the following day a mucopurulent discharge was noted. A smear was positive for gonococcus. (Incidentally, blood Kahns on both mother and child were strongly positive; and the baby also had a deformity of the nose, which obstructed breathing, and which was doubtless of syphilitic origin.) Routine treatment plus sulfanilamide was prescribed and the eye showed complete, uncomplicated recovery in seven days.

Our fourth and fifth cases demonstrate the folly of delay, and the possibility that organisms may become resistant to this drug unless they are promptly and completely eliminated by it.

The fourth patient, a male 23 years of age, admittedly

having had gonorrheal urethritis for two months, was admitted for treatment of his condition and an infection of the right eye which had become involved five days prior to admission. An eye smear was positive for gonococcus. There was already definite infiltration of the right cornea with beginning ulcer formation. Routine treatment and sulfanilamide were prescribed and subsequently several intravenous typhoid "shocks" were given. The discharge became considerably lessened within 48 hours and had all but subsided in five or six days after therapy was begun. The corneal ulcer, unfortunately, went from bad to worse and actual panophthalmitis became a definite threat. Twelve days after admission of the patient the cornea perforated, shoving Descemet's membrane into the hole and closing it. There was moderate hypòpyon. After 28 days of hospitalization the patient was discharged apparently cured of his urethritis and much improved as far as his eye was concerned. Several subsequent visits to the office have shown the eye "quieting down" and a large corneal macula forming. Prognosis for vision is poor, indeed.

The fifth patient, a baby boy 13 days old, said to have been delivered by a registered midwife who used Credé's prophylaxis, was admitted eight or nine days after a purulent discharge from both eyes was noted. Both father and mother were negative for the disease, but smears from the baby's eyes were positive for gonococcus. Routine treatment with sulfanilamide was prescribed. After 23 days of hospitalization, at the mother's insistence, the patient left the hospital still with considerable discharge from the right eye, the left eye having become clear the week before. The mother was instructed to carry on the treatment at home. On a visit of the patient to the office eight days later much improvement in the right eye was noted. Since then the baby has not returned for observation, but expectancy of complete recovery is favorable.

These five cases, of course, are too few for statistical significance, but one could hardly fail to be impressed with the dramatic effect of sulfanilamide treatment. Even the failures are for cause and point the way toward more successful results with early and intensive therapy.

The following considerations seem of utmost importance in the treatment of gonorrheal ophthalmia:

1. Sulfanilamide is relatively innocuous under proper use and careful watch for untoward reaction. Blood determinations and urinalyses are important laboratory checks, not to mention obvious bedside observations.

2. Response to the drug is greater and more rapid during the stages of active tissue change. Sulfanilamide should be used early and intensively and continued for seven to ten days after the first negative eye smear.

3. While the average number of days of hospitalization in our five cases was sixteen, it should be noted that three of these patients were *completely* cured in an average of less than 9.7 days. The remaining two, averaging 25.5 days in the hospital, were examples of the tragedy of delay in starting treatment. Nevertheless, as Michels[6] concluded, one may expect in gonorrheal ophthalmia a reduction of hospitalization of from 28.5 days to 5.8 days for patients treated with sulfanilamide. Such treatment is warranted for the following reasons: "(i) economic importance; (ii) the ease of administration; (iii) the lack of complications; (iv) the rapid improvement found; and (v) the general increase in the comfort of the patient."

REFERENCES

1. Holman, W. L., and Duff, G. L.: *Am. J. M. Sc.*, 195:379, 1938.
2. Hamilton, Paul M.: *J. Pediat.*, 13:605 (Oct.), 1938.
3. Guyton, Jack S.: *Am. J. Ophth.*, 22:833 (Aug.), 1939.
4. Bower and Frank: *Am. J. Ophth.*, 22:277 (March), 1939.
5. Newman, H. W.: *Tex. St. J. Med.*, 33:585 (Dec.), 1937.
6. Michels, M. S.: *J. Pediat.*, 13:527 (Oct.), 1938.
7. Barbour, F. A., and Towsley, H. A.: *Arch. of Ophth.*, 22:581 (Oct.), 1939.

MENINGITIS PNEUMOCOCCI—TYPE III—CASE REPORT.

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An obese colored women, forty-one years of age, weight 260 pounds, entered the Norfolk General Hospital under the care of Drs. A. B. Hodges and J. F. Waddill (through whose courtesy I am reporting this case). The patient gave a history of coming home from work on January 2, complaining of feeling badly, said she had the grippe, her symptoms being head cold, aching pains throughout the body, chilly sensations, loss of appetite, headaches and fever. Her physician was called in and diagnosed her case as grippe. She was confined to bed and the medical treatments were carried out. Her

condition became alarming as she became deaf and complained of pain in both of her ears. About two days later, both ears began to discharge and she complained of dizziness when she would move around in the bed. She became nauseated and vomited irrespective of taking food. She became restless, though her temperature remained the same; she was irritable and showed mental confusion, and complained of severe headaches general in character. She talked incessantly in a rambling and incoherent manner.

On February 2, she was admitted to the hospital in a stupor. She was disoriented, confused and talked incoherently most of the time about pains in her head. Physical examination by Dr. Waddill showed an obese, middle-aged colored woman, weight 260 pounds. There was a stiffness or rigidity of the neck, and the mouth showed ural sepsis. There was bilateral otitis media, with rupture of both drums. Chest showed scattered mucous rales, with diminished breath sounds over the middle third of the right lobe. There was percussion dullness over this area, but not extending over the entire lobe. (It is sometimes seen in type III pneumonia infection instead of a typical lobar involvement. There is instead a patchy area or an area of consolidation.) Heart showed no remarkable enlargement on percussion. There was a soft systolic murmur heard in the apical region; the rate was elevated. Blood pressure indicated a moderate hypertension. She was sweating profusely and had a toxic appearance. There was no ankle clonus, Babinski, or Brudinski. The Kernig could not be determined because of the marked obesity of the patient. A clinical diagnosis was made of bi-lateral otitis media with rupture of both the drums; pneumonia, bronchial, right lower lobe; pneumococcus meningitis.

On the day of admission, a lumbar puncture was done with difficulty because of resistance of the patient. The pressure reading was not obtained, but it did not seem markedly increased. The fluid was cloudy and contained numerous pus cells, mostly polys with gram positive intra- and extra-cellular diplococci (pneumococci). The smears from the external auditory canals were positive for pneumococcus. About 25 cc. of spinal fluid was removed. The sputum examination revealed the pneumococcus, streptococcus viridans, diphtheroid bacillus, a few short chains of the streptococcus and occasional pus cells. The blood Wassermann anti-complementary (A.C.), Laughlen was 4 plus. At eight o'clock on the evening of admission, the temperature was 105. The spinal fluid culture and smear were positive for pneumococcus Type III. The same organisms were present in the aural discharge.

February 3.—Special examination of the ears. The left tympanic membrane was red and swollen with some sagging of the posterior-superior wall. There was an opening in the lower posterior quadrant, with a small amount of thin, yellowish discharge exuding. The right tympanic membrane was red, but there was no bulging or perforation seen. Both internal ears responded to whisper voice through the six-foot speaking tube. The caloric tests were not satisfactory. About 4,500 cc. of water at 68 F. produced a horizontal and mixed rotary nystagmus in about two minutes. The duration of the nystagmus was about sixty seconds. The same result applied to both sides. Following this test, myringotomy was done on both sides. Yellow pus was recovered on the left side and dark brown blood on the right. There was no definite tenderness on either mastoid region upon deep pressure, nor was there any edema present. X-ray of both mastoids by Dr. Wallace and Dr. Magruder on February 3—Report: There is some softening in the left mastoid and the intracellular elements in the left side are broken down and there is a softening throughout. The mastoids are considered acutely involved, the right more than the left. Urinalysis was negative. Spinal puncture on February 3 at 8:30 A. M.: Initial pressure (I.P.) 280 mm. of H_2O, fluid cloudy, 20 cc. removed. Final pressure (F.P.) 100 mm. Prontylin given intra-thecally. Laboratory report of W. C. 4,600 cells per cubic mm.; many pus cells. The Queckenstedt test did not show any abnormality. With the above information on hand, a diagnosis of acute suppurative otitis media and mastoiditis bilateral; lobar pneumonia (right lower lobe) and pneumococcus meningitis Type III was made. At eleven P. M. on February 3, the headaches had been relieved for the first time since her early illness, and her mental condition had shown marked improvement. The treatment consisted of sulfanilamide 0.8 per cent, 300 cc. subcutaneously every eight hours, and spinal drainage. Prontylin was given intra-thecally, blood transfusions were used, and the treatment was otherwise supportive and symptomatic.

February 4.—Blood count: R.B.C. 3,970.000, W.B.C. 17,000, hemoglobin 63 per cent, neutrophiles

83 per cent, small lymph 16 per cent, eosinophiles 1 per cent, Lumbar puncture: 20 cc. fluid removed, cloudy. I.P. 275 mm. H_2O. Queckenstedt negative. Twenty cc. of 0.8 per cent prontylin given intra-thecally.

February 5.—The smear from the spinal fluid was negative for organisms. Both ears were draining a small amount of thin, yellowish fluid. Patient did not complain of aural pain, but she did complain of noises in her head. The temperature was 101 and she seemed better generally. At 3:15 P. M., 500 cc. of citrated blood was given with immediate reaction; temperature 104. Lumbar puncture was done, and 20 cc. cloudy fluid withdrawn. I.P. 480 mm. Queckenstedt negative. Twenty cc. of 0.8 per cent prontylin given intra-thecally.

February 6.—Spinal puncture: I.P. 380 mm.; F. P. 185. mm. 25 cc. fluid removed; cloudy, 20 cc. of 0.8 per cent prontylin given intra-thecally. The cell count 300 per cubic mm. The tympanic membrane on either side showed improvement in the light reflex and there was less discharge. Three hundred cc. of 0.8 per cent prontylin given subcutaneously. Mental condition much improved, headaches less severe, no tenderness over the mastoids. There was no vertigo or spontaneous nystagmus. The media and fundi were negative except there was a rather large atrophic area on the temporal side of the right fundus.

February 7.—Spinal puncture: I.P. 230 mm.; F.P. 90 mm. Fluid practically clear. Twenty cc. of 0.8 per cent prontylin given intra-thecally. Cell count of spinal fluid 266. Chlorides negative, culture negative. W.B.C. 11,900; polys 86 per cent; small lymph 14 per cent.

February 8.—Spinal puncture: Fluid clear. I.P. 240 mm. 10 cc. removed and 20 cc. prontylin 0.8 per cent given intra-thecally. Cell count 60 per cubic mm. R.B.C. 4,250,000; hemoglobin 67 per cent. Temperature varied from 100 to 102 degrees.

February 9.—Spinal puncture: I.P. 270 mm. All fluid possible drained, slightly hazy, about 25 cc. removed. Twenty cc. of 0.8 per cent prontylin given intra-thecally. Cell count 980 per cubic mm. Three hundred cc. 0.8 per cent prontylin given intra-thecally. The culture and smear from the spinal fluid was negative.

February 10.—Spinal puncture: I.P. 270 mm.; F.P. 80 mm. 20 cc. spinal fluid removed, clear. Cell count 200 per cubic mm. Twenty cc. of 0.8 per cent prontylin given intra-thecally.

February 11.—Spinal puncture: 20 cc. fluid removed. I.P. 310 mm. 20 cc. of 0.8 per cent prontylin intra-thecally. Wassermann of spinal fluid negative.

February 15.—Spinal puncture: I.P. 230 mm.; F.P. 100 mm., perfectly clear fluid. Twenty cc. withdrawn. Cell count 110 per cubic mm. Differential count: Polys 12 per cent; lymph 88 per cent. Smear negative.

February 19.—Spinal puncture: I.P. 290; F.P. 150 mm. 20 cc. fluid withdrawn. Cell count of 289.

February 24.—Spinal puncture: I.P. 390 mm.; F.P. 140 mm. 20 cc. removed; clear fluid. Cell count 21 per cubic mm. R.B.C. 170,000. Both tympanic membranes have satisfactorally cleared up, but they had retracted. Perforation in either drum was closed, and the canals were dry. She heard ordinary conversation at ten feet on either side. Did not complain of headache, nausea or dizziness. There was no nystagmus present. Her chief complaint was noises in her head and pain in her right arm and shoulder. These pains were attributed to myositis and improved with thermolite treatments. The chest condition cleared up in ten days after admission.

From February 24, the patient did not receive any treatments except supportive ones. The last lumbar puncture was done on this date. Patient was allowed out of bed for the first time on this date.

February 28.—X-ray Report: Left mastoid relatively clear, there being several distinct cells. The right mastoid continues to show breaking down and softening (Drs. Magruder and Wallace).

March 1.—There was a general improvement and the patient was allowed the freedom of the ward. She complained of a general weakness, but not otherwise. Her mental reaction was normal.

March 5.—Patient discharged.

April 18.—Patient reported for observation. Vision: right eye—20/30; left eye—20/20. There was a scotoma on the nasal field of the right eye, corresponding to the atrophic area (chorio-retinitis) on the temporal side of the fundus. Ear drums have their normal light-reflex and land-marks, but both were retracted. The canals were dry. Hearing showed some air conduction deafness, and she complained of some noises in her head.

September 26.—The object in reporting this case is to add another to the already many case reports

which, before the advent of Sulfanilamide, usually terminated fatally. There was a discussion among the various consultants as to the possibility of a brain abcess being present. The constant elevated spinal pressure was a conspicious occurrence. On the above date, there were *no* signs of a brain abcess. The debate over, the necessity for a mastoidectomy was considered pro and con. The X-ray findings in the mastoids were of interest. The sulfanilamide therapy, the recovery without surgical intervention, all of these features have been of great interest in this case.

813 Wainwright Building.

SUBARACHNOID HEMORRHAGE DUE TO LUES.

HENRY G. HADLEY, M.D.,
Washington, D. C.

These conditions are often called spontaneous, but in all cases there must be some etiological factor although it may be difficult to find. This disease is more common than generally realized. Ohler and Hurwitz[1] report that the incidence of cases in the Boston City Hospital was equal to that of subacute bacterial endocarditis, a disease about which much more is known, and was equal in number to 1/15 of all cerebral accidents.

The source is either (1) a subdural hemorrhage with rupture into the subarachnoid space, (2) a hemorrhage of the superficial brain with rupture through the pia, (3) a deep cortical hemorrhage with rupture into the ventricle, thence through the foramina of Luschka and Magendie into the subarachnoid space, or (4) a ruptured vessel in the subarachnoid space. The causes may be divided into (1) traumatic, (2) circulatory, as (a) hypertension, which by elevation of the arterial tension and associated vascular changes occupies first place, (b) nephritis, which by increase of tension and humoral modifications predispose, (c) syphilis, which produces arterial changes, especially atheroma with fragile vessels, (3) causes in the blood associated with hemorrhages, as purpura, hemophilia and leukemia, and (4) causes undetermined, which are more frequent in young individuals. There may be a relation between subarachnoid hemorrhages and the Parkinsonian syndrome as both hemorrhagic encephalitis and subarachnoid hemorrhages have been known to be followed by this distressing sequela. Lethargic encephalitis is considered to be hemorrhagic in type.

Egas Moniz in 1935-36, showed the frequent existence of vascular abnormalities by arteriorradiography. Bouman[2] and Masten[3] considered them to be due to a rupture of the arteriocommunicans posterior of the circle of Willis. Branwell[4] stated that the bleeding point is difficult to locate unless it is where the internal carotid joins the circle of Willis. In this case third nerve palsy is associated with the signs of a leaking aneurysm. He confirmed the diagnosis in one individual by arteriorradiography and ligated the internal carotid artery in the neck. He considered syphilis to be rarely an etiological factor, as did also Osterman[5] who thought syphilis to be practically never a cause, for the reason that cerebral aneurysms are not usually due to syphilis. However, Sands[6] considered that syphilis causes subarachnoid hemorrhage by rupture of the diseased pial capillaries or vessels.

Symonds[7] reported 127 cases, ten of which were due to lues. Herman[8] reported twenty-four cases, two of which were leutic. Negland[9] reported two cases due to syphilis of the meningeal blood vessels, while eleven cases were due to aneurysms which were not syphilitic. A syphilitic meningitis is demonstrated by thickened leptomeninges, infiltration with lymphocytes and plasma cells, marked endarteritis of fine capillaries of the pia and hemorrhage into the subarachnoid. The brain tissue shows marked glial reaction and syphilitic endarteritis. The early stages of paresis are that of a hemorrhagic meningitis with extension into the brain tissue by way of the pial vessels. A chronic inflammation then results, causing degeneration of the brain cells.

REPORT OF CASE

Mr. O. S., white, age fifty-four. The onset of his trouble on March 6, 1935, was sudden, with progressive increase of symptoms, headache, disturbance of consciousness increasing steadily until he was comatose twenty-four hours later. There was a positive Kernig's sign, stiffness of the neck and

catatonic extremities. Reflexes were diminished. Knee jerks absent. Babinski negative. Argyll-Robertson pupils. Pulse seventy-six. Slight rise in temperature began the second day.

Spinal fluid showed uniform tinting with blood in all tubes with zanthochromia. Pressure twelve reduced to four. Wassermann and Kahn reported negative. Blood Wassermann was two plus. Tryparsamide treatment was begun immediately.

After twenty days he had a second attack of subarachnoid hemorrhage with coma following. Spinal puncture was again performed and the pressure reduced. Spinal fluid showed Wassermann four plus and Kahn four plus. Colloidal gold test showed a tabetic curve. Blood Wassermann and Kahn four plus. Apparently the first spinal fluid report was not satisfactory due to the large amount of blood.

Convalescence was quite rapid. In one month he returned to his work as a printer and he has been working regularly since that time, a period of over four years.

BIBLIOGRAPHY

1. Ohler, W. R., and Hurwitz: *J. A. M. A.*, 98, pt. 2, p. 1856, May 28, 1932.
2. Bouman, K. H.: *Edinburgh Med. Jour.*, New Ser. 43, 2, p. 618, 1936.
3. Masten, M. J.: *Wisc. Med. Jour.*, 34, p. 168, 1935.
4. Branwell, E.: *British, M. J.*, 2, p. 512, September 14, 1935.
5. Osterman, A.L.: *Arch. of Int. Med.*, 51, p. 452, 1933.
6. Sands, I.: *Arch. of Neurol. and Psychiatry*, 24, p. 85, 1930.
7. Symonds, C. P.: *Quarterly J. Med.*, 18, p. 93, October, 1924.
8. Herman, E.: *Ztschr. f. d. ges. Neurol. V. Psychiat.*, 105:667, November, 1936.
9. Negland, K.: *Deutsche Ztschr. f. Nervenh.*, 78:78, April, 1923.

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Correspondence

"Blood Banks".

TO THE EDITOR:

In the Febuary number of the VIRGINIA MEDICAL MONTHLY, page 115, there appeared a reprint from the Marion "Democrat" dealing with a blood bank established at the Homeland Hospital. This item contains a number of medical errors such as are apt to be found in the lay press. It seems to me that attention should be called to these in order that the VIRGINIA MEDICAL MONTHLY may be protected from the appearance of sponsoring them.

Whole blood stored in an electric refrigerator at close to 32° Fahrenheit can be preserved for a much longer period than four days, although some deterioration may occur. It can be used up to three weeks or longer. It is, however, absolutely unsafe to store it at 65° Fahrenheit, the figure given in the quoted article. The method of withdrawing blood by the "vocuoliter" (which should be "vacoliter") is not a strikingly new method, being sufficiently old to be commercialized. The flasks, etc. are sold under the above name. The simplest way of obtaining blood plasma is by settling rather than by centrifugation, as pointed out in a letter to the Journal of the American Medical Association from this clinic (J. A. M A., Vol. 112, No. 14, p. 1406). Plasma is, of course, useful for certain specific purposes, particularly in burns and shock where there is blood concentration; it is not "equally effective in blood transfusions".

A claim is presented that the blood bank at the Homeland Hospital is the first in Virginia. Although the date of its origin is not given, the assumption is that it is not older than a few months. Although this is unimportant, I might call attention to the fact that we have been successfully operating a blood bank at the University of Virginia Hospital for over two years.

EDWIN P. LEHMAN, M. D.,
Professor of Surgery and Gynecology,
University of Virginia.

February 12, 1940.

Library, Medical College of Virginia.

TO THE EDITOR:

I am interested in making this library more useful to the physicians of the State. We have a good library with many of the best periodicals and many of the best books. It is used extensively by our faculty and students, less so by the physicians of Richmond, and still less by the physicians in other parts of the State.

Our first duty is naturally to our own faculty and students, and yet it is entirely possible to render much more service to physicians all over the State. As a State institution, it is quite appropriate that we should do so. Have you, as Editor of the VIRGINIA MEDICAL MONTHLY, any suggestions as to how we

could be of help to your society or to any of your members?

For some years we have been publishing lists of our new books in the VIRGINIA MEDICAL MONTHLY with an offer to send them on request. However, it is not only the new books that might be desired, it might be standard books on some special subject. These we can send, as well as recent articles on such subjects.

I feel sure that many physicians need and desire such aid at times, especially the young physician who cannot well afford to buy all he needs. He naturally hesitates to ask for a favor and fails to realize that it is not a favor, as we want to help him. It is part of our job.

If you see any way in which you can assist in this matter, please do so, and write me about it.

E. C. L. MILLER, M.D.
Directing Librarian,
Medical College of Virginia.

Richmond, Va.
February 20, 1940.

Public Health Statistics

I. C. RIGGIN, M. D.
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for January, 1940, compared with the same month in 1939 follows:

	1940	*1939*
Typhoid and Parathyphoid Fever	11	20
Diphtheria	73	108
Scarlet Fever	219	167
Measles	107	334
Meningitis	4	12
Poliomyelitis	2	2
Rocky Mountain Spotted Fever	2	0
Typhus Fever	1	0
Undulant Fever	1	2
Tularaemia	18	19

AN AID TO DIAGNOSIS OF DISEASES AMONG INDUSTRIAL WORKERS

One of the most helpful aids in the diagnosis of diseases among industrial workers is a detailed occupational and environmental history of the patient. Frequently the symptoms of occupational diseases are the same as those of ordinary illnesses, and a proper diagnosis therefore involves a consideration of the etiology of both.

In many cases occupational histories, if taken at all, are perfunctory, the subject being covered by an entry "laborer", "factory worker", or "plumber". Such statements are of some help in determining whether the hazards of the patient's occupation may be contributing to his illness. However, if they are enlarged upon they may constitute a source of information which may aid greatly in diagnosis. The following is quoted from Dr. Leonard Greenburg of the New York Division of Industrial Hygiene: "To say that a man makes parts of stoves may mean little. To add that he is an enameler and uses a spray painting machine with enameling materials containing lead and pulverized quartz is to tell a far more complete story which immediately suggests the possibility of lead poisoning and silicosis."

In many cases the occupation of the patient may not be contributory to his illness, but some chronic condition of long standing caused by hazards of previous employment may be complicating the picture. Consequently, it is of value to obtain histories covering several years. There are those who feel that a complete resume of the patient's occupations from the time he took his first job is the only satisfactory type of occupational history.

The environment of the worker, as well as the process at which he works, often is of real importance. If effective control measures are in operation, it is possible that the degree of absorption of poisonous substances may be low enough to rule out the hazard of the occupation. On the other hand, a worker whose occupation might be considered non-hazardous may be working in the vicinity of a hazardous operation and, being unprotected, may contract poisoning.

Occupational histories thus should include data on the character of the occupation, the name of the industry, the exact materials and by-products handled or contacted, the length of exposure, the control measures, if any, installed in the processes, and the nature of other processes in the immediate vicinity of the patient's work place. Moreover, these data should not be limited to the present occupation but should include previous employment for at least

ten years, preferably covering the patient's entire working life.

Such histories may make possible the diagnosis of many afflictions in their incipiency. For example, the early symptoms of chronic plumbism may so closely simulate those of other diseases that it is difficult from a clinical examination to make a differential diagnosis of lead poisoning. Also an anemic condition may be due to benzol poisoning or an hysterical condition to carbon bisulfide.

In addition to being of value in recognizing occupational diseases and in the differential diagnosis of occupational and non-occupational diseases, these environmental histories may help to discover conditions which are contributory to the excessive rates of *ordinary* illnesses among industrial workers.

The consulting services of the State Health Department are at the disposal of physicians and plant operators to assist in determining atmospheric concentrations of toxic materials, efficiency of control equipment, and to aid in the diagnosis of occupational diseases.

Woman's Auxiliary to the Medical Society of Virginia

President—MRS. HENRY A. LATANE, Alexandria.
President-Elect—MRS. GRIFFIN HOLLAND, Eastville.
Recording Secretary—MRS. T. N. HUNNICUTT, Newport News.
Treasurer—MRS. REUBEN F. SIMMS, Richmond.
Parliamentarian—MRS. JOSEPH BEAR, Richmond.
Chairman, Press and Publicity—MRS. HENRY M. SNEAD, Petersburg.

Greetings From Your President.

I trust that you are all busy carrying out our plans for the year, both work and play. I have the feeling of real cooperation all over the State and am looking forward to visiting with many of you in the Spring months.

I had the honor and pleasure of entertaining Mrs. V. E. Holcombe of Charleston, West Virginia, President of the State Auxiliary and also President-Elect of the National Auxiliary to the American Medical Society. We discussed in detail plans for the 1940 Convention to be held as you know the last three days of July in White Sulphur Springs, a joint meeting with West Virginia. I hope you are all planning to be there. With the cooperation of our Medical Societies we hope to put on a very successful entertaining program.

I am sure we all derive much benefit and inspiration from Conventions and in that way we are truly blessed—with the National Convention in New York, June 10-14 and the Virginia and West Virginia Meeting in July. I'm sure if we attend both we will return filled with knowledge and enthusiasm. Mark these dates right now on your calendars.

To the members of the Executive Board and County Presidents, I'm hoping to meet you all in Richmond, February 21.

Let us remember always our slogan of the year to "Be and not Seem". So we shall have a year's work of which we may be proud.

POLLY GRAHAM LATANE,
(MRS. HENRY AUGUSTINE LATANE).

Auxiliary to the American Medical Association.

The 18th Annual Convention of the Woman's Auxiliary to the American Medical Association will be held in New York City, June 10-14, 1940, with headquarters in the Hotel Pennsylvania. In view of the fact that the second edition of the World's Fair will accelerate advance hotel reservations, it is urged that reservations be made immediately thru the Housing Bureau which has been set up by the American Medical Association, namely Dr. Peter Irving, Room 1036, 233 Broadway, New York City.

Alexandria Auxiliary.

We, of the Alexandria Auxiliary, are having such an interesting and active year, I feel that I'd like for some of the other county auxiliaries to read about us.

We have recently sponsored a very successful benefit bingo party. There are a number of benefit bridge parties planned for the near future, and within the next two weeks we hope to have a rummage sale.

We have responded promptly to each request from the State for our financial share in its undertakings.

For the month of February approximately twelve of our members have volunteered their time and assistance in Red Cross work that is now being con-

ducted in Alexandria—that of cutting dressings, bandages, and sewing.

Within the next two weeks we will have completely redecorated the Doctors' Lounge in our Alexandria Hospital. In addition, and prior to this decorating, we have had bookshelves constructed in the lounge, and are eager to have the doctors feel very proud of our work when it is completed.

It is my sincere wish that the remainder of this year will compare in success to the first half; that when the time arrives to convene at White Sulphur I may boast of 100 per cent attendance from Alexandria; and that our State President may justly be proud of us.

EUNICE WEST,
President.

The Petersburg Medical Auxiliary

Was entertained in the home of the President, Mrs. W. B. McIlwaine, for the regular January meeting, with a splendid attendance.

Mrs. George Reese, Chairman of Revisions, submitted a revised Constitution and By-Laws, drafted to conform to the newly revised State Constitution, which was approved and adopted. Other standing committee reports were heard, and final plans for the hospital Linen Shower were discussed.

After the business session, Mrs. Wright Clarkson, in a most interesting and highly entertaining manner, reviewed the book, "My Strength of Days", by Dr. Anne W. Fearn, an American physician, who practiced medicine in China for forty years.

Following this, tea was served, with Miss Nellie Mae McIlwaine assisting her mother, as hostess.

MRS. FLETCHER J. WRIGHT, JR.,
Chairman, Press and Publicity.

Williamsburg-James City Auxiliary.

The regular meeting of the Williamsburg-James City Medical Auxiliary was held at the home of Mrs. E. T. Terrell on January 9. There were nine members present.

The minutes of the last regular meeting were read and approved. The treasurer reported a balance on hand of $15.03.

Mrs. J. R. Tucker was appointed program chairman.

It was voted to renew the *Hygeia* subscription for the public library.

A Christmas Message from Mrs. Latane was read by the secretary.

As there was no further business, the meeting adjourned.

MARION HOLDERBY,
Recording Secretary.

Norfolk Auxiliary.

The Woman's Auxiliary to the Norfolk County Medical Society held a meeting on January 30 at the Museum of Arts and Sciences. The program was arranged by Mrs. R. M. Reynolds, chairman of the public relations committee, and the public was invited to attend. Dr. Walter B. Martin gave a very interesting talk on socialized medicine and discussed in detail the Wagner Bill.

Tea was served at the conclusion of the program.

Mrs. H. W. Rogers, President of the Auxiliary, presided.

EUGENIA H. JONES (MRS. BROCK D.)
Chairman, Press and Publicity.

Mid-Tidewater Auxiliary.

The January meeting of the Mid-Tidewater Medical Auxiliary was held January 24 in the home of Mrs. W. S. Cox at West Point.

Mrs. Cox and Mrs. M. H. Harris had arranged an interesting program on Health and *Hygeia,* the topic for the meeting. Mrs. Cox, our *Hygeia* chairman, discussed *Hygeia* and its benefits, and Mrs. Paul Pearson reviewed "A Dollar a Month Doctor" from *Hygeia.* Mrs. Hawes Campbell, our President, reported on her visit to the Southern Auxiliary meeting. At one o'clock, the Auxiliary members were guests at lunch of the Medical Society. In spite of a small attendance, due to bad weather, this was an interesting and inspiring meeting.

The proposed programs for our three remaining meetings for the year are as follows:

APRIL—Doctor's Day, with Mrs. Latane, State President, as our guest;

JULY—Public Relations and Legislation;

OCTOBER—Miscellaneous Program, each member bringing something helpful to contribute to the program, and also a report from the State meeting.

(MRS. PAUL) VIRGINIA MCG. PEARSON,
Corresponding Secretary and Publicity Chairman.

Medical Society of Virginia
Proceedings of the Council

The regular winter meeting of the Council of the Medical Society of Virginia was held at the Society's headquarters in Richmond, January 16th, at 2:30 P. M. Those present were: Dr. Hugh H. Trout, President; Dr. Walter B. Martin, President-Elect; Dr. Karl S. Blackwell, First Vice-President; Drs. R. W. Miller, C. E. Martin, W. C. Akers, John Hundley, A. F. Robertson, and J. E. Knight, Councilors; Dr. Wyndham B. Blanton, Editor; Dr. I. C. Riggin, State Health Commissioner; and the secretary.

It was moved to suspend reading of minutes of the last meeting of the Council and they were adopted as printed on pages 683-4 of the November *Monthly*.

In accordance with action taken at the last Council meeting, Dr. R. W. Miller was asked what report his committee had with regard to making new contracts with the publishers of the three volumes of Medicine in Virginia. He advised that he had consulted with the publishers and while they all felt there was no moral obligation on the part of the Society to make any financial settlement, he thought they would like to do what is fair as the publishers had assumed the obligation just as the "depression hit" and returns had not been what were expected. He was working along the line of securing a reduction in the price of the books, after which new contracts might be made. The Society has recently been using notices of the books in outgoing mail. Motion was adopted that the Committee have power to make plans and new contracts with the publishers.

Dr. Blanton, who had been appointed to look into the age of the Society, gave a resume of the early history of the organization, stating that it was first organized on December 15, 1820, by doctors of Richmond and Manchester and was incorporated by an act of the General Assembly in January, 1824. After varying degrees of activity, county organizations began to be formed in the early fifties. It functioned in this way until 1859 and, after a lapse of a few years, was again reorganized in 1870. He would like to see the oldest date possible used for the Society and felt its birthday should be December 17, 1820. Upon motion, this was adopted and Dr. Blanton was asked to publicize this fact in the *Monthly*.

The executive secretary-treasurer gave a statement as to money on hand on October 1, 1939, and as of January 1, 1940, stating that in accordance with action of the Council at its last meeting, the $1,500.00 from bonds which matured last August had been invested in U. S. Government Bonds. Dr. Miller felt it might be well to invest other money in that way when available, whereupon Dr. Robertson moved that the budget committee be empowered to invest money in the U. S. Baby Bonds when they see fit.

Dr. Trout then said he would like to reappoint Drs. Miller and C. E. Martin as the budget committee of the Council.

Miss Edwards asked what should be done about certain members in arrears with dues who were thought to be making an honest effort to stay in the Society. She was instructed to take this up with the various councilors and the president would accept their opinions as to adjustments, as provided in the By-Laws.

The Council previously voted that if the earlier date of organization could be claimed for the Society, the new Constitution and By-Laws should have a foreword carrying this statement. Now that this had been settled, the secretary wished to know if they should first be published in the journal and reprints made, or if they should be published only in pamphlet form. Motion was offered and adopted that these be published in the *Monthly* with a note advising that any member may have a reprint copy upon request. After waiting for the time specified, reprints should be made, the number to be based on the requests received.

The councilors were asked for reports. Dr. Hundley said he had no report as a councilor but would like to give one as chairman of the Medical Economics Committee. The Hospital Service Association has prepared a model enabling act which has been put into effect in several states and it is proposed to rewrite this bill and present it as an enabling act to authorize the operation of Hospital Service and Medical Service Associations in this State to cover Hospital Service, Medical Service, and possibly a combination of both. During the morning, he had been in conference with Mr. Chichester of the Securities Division, who advised if this plan is adopted it would come under the insurance laws whereas it has operated under the securities law. It was not the wish of the committee to disturb the close personal relations existing between physicians and their patients. Whatever plan is adopted should be managed by the physicians with the control left in the hands of the component societies. He felt that legislation in regard to this should be introduced into the General Assembly fairly early.

Dr. Robertson offered a motion that the Council endorse the enabling legislation suggested by the Medical Economics Committee with the understanding that they try to keep it in the control of the medical profession.

Dr. Akers asked why there should be an enabling act unless it comes under the insurance commission. In explanation, it was said the Hospital Service Association has been working under the Securities Commission but to get Medical Service, enabling legislation is necessary.

Dr. Robertson's motion was then seconded and adopted.

Dr. Hundley said that the Lynchburg Academy of Medicine requested the President to appoint a committee,

with the approval of the Council, to which disputed questions as to hospital or medical service may be referred for settlement. Dr. Robertson moved that these be referred to the Medical Economics Committee. This was adopted with the amendment that the Committee bring in a report at the annual meeting of the Council.

Dr. Hundley told of the action of the Board of Trustees of the Medical Society of New Jersey, copy of which was sent to the constituent state medical organizations. This was in regard to the National Physicians' Committee for Extension of Medical Services, which had asked the medical profession to support the expected activities of that committee in its fight on behalf of the health legislation endorsed by the American Medical Association. The New Jersey Society felt that "organized medicine stands higher in public opinion and has more influence today than before" and believed the American Medical Association should continue to take the lead in forthcoming health legislation rather than delegate it to a subsidiary organization which they would control "in order to avoid the risk of becoming liable to heavy taxation". The New Jersey Board did not feel that the advice and cooperation of the American Medical Association, which had already been sought by those preparing legislation, could be classified as promoting legislation, thereby making it liable to taxation. Dr. Hundley asked if the Council wished to take action in regard to this subject. In the discussion which followed, it was thought it might be well to have some agency which would combat the work done by the Committee of 400, educate the public and offset the propaganda of the Committee. This opinion was endorsed and it was felt that the New Jersey Society should be so advised.

Dr. C. E. Martin, councilor for the Fourth District, said that the Southside Virginia Medical Association and the Fourth District Medical Society had agreed to merge, perhaps using the name of the former, which is the older organization, if this is agreeable to the Council. Dr. Trout ruled that after the committees from the two societies complete their plans, this could be decided.

Dr. Trout said that he and Dr. Riggin had an engagement to see the Governor and suggested that a committee of colored doctors from the Old Dominion Medical Society be allowed to appear before the Council at this time, to discuss some problems with which they are confronted.

Dr. R. W. Miller said he would like to make an announcement before Dr. Trout left and then recalled the action of the House of Delegates at the last meeting, whereby local organizations would be asked to turn over to the State Society any money collected from commercial exhibits in excess of expenditures, that it might be used for the scientific exhibits. He said that the Richmond Academy of Medicine had now settled all expenses incident to the meeting last Fall and it was a pleasure to present the Society with a check from the Academy for $100.00 over their expenses. This was accepted with thanks and turned over to the Executive Secretary-Treasurer for use of scientific exhibits at the next meeting.

Dr. Trout asked Dr. W. B. Martin to take the chair during his absence and he would bring in the delegation from the Old Dominion Society. While waiting for them, Dr. Blanton said that he had been informed that there is being planned a reorganization of the State Government under several departments, and that this would mean the abandonment of the present State Hospital Board and its personnel. He felt it would be interesting to know how neuropsychiatrists throughout the State feel about this and he sent out a questionnaire to get the poll. The consensus of opinion was that there should be no tampering with the present board which has accomplished much good work during its short existence. He felt the results of the questionnaire should be published but wished an expression from the Council. The members concurred in Dr. Blanton's opinion.

The delegation of colored physicians, composed of Dr. E. W. Stratton of Charlottesville, president of the Old Dominion Medical Society, and Drs. G. H. Francis of Norfolk and L. C. Downing of Roanoke, was now introduced to the Council and asked to tell of their problems.

Dr. Stratton said that negro doctors sometimes feel a lack of cooperation of members of the white societies and, as all are servants of humanity and the colored doctors represent the minority group, they hope this Society might help them. They had conferred with the president several times and he had been very cooperative. He said that in Virginia, colored doctors are not allowed to hold membership in the American Medical Association; not allowed to further their knowledge of the practice of medicine by attending medical meetings or attending post-graduate medical schools; cannot secure liability insurance against alleged malpractice suits because they are not allied with organized medicine. As to the social side, the situation would be as uncomfortable on one side as on the other. They would, however, like some affiliation which would give them the protection of organized medicine and permit them to have these advantages. They wondered if the Old Dominion Society might be made a constituent part of the Medical Society of Virginia from the scientific standpoint. Drs. Francis and Downing spoke along the same line, and were appreciative of the cooperation of several of the white doctors in their respective communities.

Dr. Martin said the Council was glad to hear from them and promised careful and sympathetic consideration of these requests.

After the negro doctors left, Dr. Martin asked what action should be taken by the Council.

Dr. Blackwell said that personally he could not see any danger in what they ask and felt that some expression from the State Society would be of help to the local societies.

Dr. Martin felt that we should try to help as we can and thought the Council might recommend to the next House of Delegates that some action be taken.

Dr. Blackwell offered a motion that the President of the Society be authorized to appoint a special committee to look into this matter, take it under advisement, and make a report at the next meeting of the Society. This was seconded and the question opened for discussion.

Dr. Knight said that their society held social meetings

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in connection with the scientific programs and met in homes of the doctors and he did not know what could be done in their organization.

Dr. C. E. Martin said he thought negro physicians had trouble in securing automobile as well as liability insurance.

Dr. Miller felt that a body of fair minded men could work out some plan.

Dr. Trout, having returned and assumed the chair, asked if it might be possible to ask local societies to make some arrangement whereby negro physicians might hear the scientific programs. Dr. Sanger, president of the Medical College of Virginia, had advised him that our Society should work out some plan for the problem before it is forced upon us.

Dr. Hundley asked if it were possible to have a society affiliated with the State organization if it did not have a geographical arrangement as a unit.

Dr. C. E. Martin thought the committee to be appointed by the President should be composed of five members.

Dr. Blackwell's motion being put to vote was adopted and the President said he would ask Dr. Miller to be chairman of this committee, the other appointees to be named later.

Motion was then made, seconded and adopted that the President be requested to send a letter to all component societies and get a cross-section opinion on this subject.

Dr. Hundley said that another matter considered by the Medical Economics Committee was the suggestion that scholarships of $550.00 be granted medical students, with the understanding that they should practice for a stated number of years in rural communities within the State, but Dr. W. B. Martin had opposed this as being entirely inadequate. Motion was made and adopted that the Council go on record as being opposed to giving scholarships to needy medical students in return for rural medical practice as not being an adequate arrangement for solving the question of supplying physicians for these communities.

A letter was presented from Dr. Ennion Williams, chairman of the Committee on Syphilis Control, stating that, since the House of Delegates endorsed that committee's Marriage Protection Bill in October, they had held a meeting with interested legislators and representatives of the Federation of Women's Clubs and they agreed to accept the bill if the two following provisions were added:

First, that the laboratory reports be mailed by physicians to the State Health Department rather than sent to the County Clerks;

Second, that if a person marries with syphilis, he or she be required by law to take treatment deemed necessary by the State Health Commissioner.

The Committee on Syphilis Control felt it advisable to accept these changes rather than have another bill introduced which might be less desirable medically.

Motion was made endorsing the bill as amended by Dr. Williams' committee. Adopted.

Dr. Trout said that he had received a letter from Mr. Savage, Executive Secretary of the West Virginia State Medical Association, saying that their Auxiliary wishes a guest speaker for their joint meeting at White Sulphur Springs and stated that he did not know what is customary about this. It was moved that this matter be referred to the secretaries of the two societies.

Dr. Trout said that he had learned that the State-Wide Safety Conference is to meet in Roanoke May 6-8, and, in accordance with action of the House of Delegates, he would appoint three local men to represent the Society at that time.

The question as to low fees allowed doctors for attending patients in jails was mentioned, the fee allowed being 75 cents for the first patient and 50 cents for each additional patient. Cases were cited where the lists of names had been padded so as to get doctors to come to the jails as they would not go otherwise for the small amount allowed. It was thought wise to take no action about this now as the Governor and Mr. Downs are working together on a plan to take care of this and it was felt that the medical profession should keep hands off for the present.

Dr. Trout said he felt the councilors might be interested in knowing that a joint committee from the West Virginia and Virginia State Societies met at White Sulphur Springs in October and arranged for the scientific program. It was decided to have papers presented at the morning sessions by guest speakers, these papers to have two discussors—one from each Society. Then there would be luncheon meetings at which questions might be handed the chairmen of the sections, these to be discussed at round tables in the afternoons. The West Virginia Association had always had orations on medicine and surgery and he had been designated to secure the surgical speaker, who will be Dr. Irvin Abell of Louisville. Practically all of the guest speakers selected at this conference had agreed to accept.

Dr. Robertson said he was interested in the report made by Dr. Blanton in answer to his questionnaire sent the neuropsychiatrists as to the State Hospital Board and would like to suggest that Dr. Blanton prepare an editorial for the MONTHLY in regard to the advances made by the State Hospitals in the last two or three years since the appointment of the Board. This was approved and there followed much discussion of the subject which culminated in the following motion proposed by Dr. W. B. Martin:

Resolved that the President of the Medical Society of Virginia be instructed to write to Governor Price, calling his attention to the resolution passed by the House of Delegates, endorsing the present State Hospital Board, and conveying to him the fact that the Council approves of this endorsement, and, further, requesting that before any final decision is made on any proposed changes in the present set-up, opportunity be given a committee of the State Society to discuss such proposed changes with him.

This was seconded and adopted.

Another motion made and adopted was to request Dr. J. M. Hutcheson, chairman of the Committee on Legislation, to bring in a report at the next meeting of the

Society in regard to medical appointments by the Governor or any other legislative matter pertaining to medicine.

It was suggested that it might be well to advise the Governor each year that we have a Legislation Committee which will be glad to confer with him on medical affairs. After discussion, it was decided to have this known as a Special Consultation Committee to the Governor, and have it composed of the President, chairman of the Legislation Committee, chairman of the Medical Economics Committee, and editor of the MONTHLY. Dr. Miller thought it might be well to have this made a standing committee of the Society.

Several letters received at headquarters were presented but were ordered referred to committees without being included in minutes of this meeting.

Motion was offered that the thanks of the Council be conveyed to the Richmond Academy of Medicine for the check presented through Dr. Miller for use on scientific exhibits.

There being no further business, the meeting adjourned.

AGNES V. EDWARDS, *Secretary.*

CONSTITUTION AND BY-LAWS
MEDICAL SOCIETY OF VIRGINIA
(As Revised and Adopted at Annual Meeting in Richmond, Va., October, 1939)

CONSTITUTION

ARTICLE I—TITLE

The name of this organization shall be the Medical Society of Virginia. The words "the Society" in this constitution and its By-Laws shall be construed to mean "the Medical Society of Virginia".

ARTICLE II—PURPOSES

The purposes of this Society are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession.

ARTICLE III—COMPONENT SOCIETIES

The State of Virginia shall be divided into component medical societies of one or more counties. The Constitution and By-Laws of these societies shall be in conformity with those of the State Society, and the principles of Medical Ethics of the American Medical Association shall govern the members.

ARTICLE IV—COMPOSITION OF THE SOCIETY

White physicians in Virginia, not practicing sectarian medicine, members of a component society, are eligible to active membership. Provision may be made for associate membership.

ARTICLE V—HOUSE OF DELEGATES

The House of Delegates shall be the business and legislative body of the Society, and its membership shall consist of the delegates elected by the component societies, the President, the President-elect, the First Vice-President, and the members of the Council.

ARTICLE VI—COUNCIL

The Council shall have charge of the business affairs of the Society when the House of Delegates is not in session, and shall prepare and present a budget for the ensuing year to the House of Delegates at its first session. The Council shall consist of one member from each Congressional district of the State, together with the President, President-elect, and First Vice-President.

ARTICLE VIII—OFFICERS

The officers of the Society shall be a President, a President-elect, who shall succeed to the Presidency the following year; three Vice-Presidents, and an Executive Secretary-Treasurer. The office of the Executive Secretary-Treasurer may be held by a non-member.

The officers shall be elected during the annual session of the House of Delegates, and will begin service at the adjournment of the annual session and continue until the end of that term, or until a successor qualifies. The term of office shall be for one year.

ARTICLE VIII—STANDING COMMITTEES

The Standing Committees of the Society shall be: (1) Publication and Program, (2) Scientific Exhibits and Clinics, (3) Department of Clinical and Medical Education, (4) Legislation, (5) Medical Economics, (6) Membership, and (7) Ethics.

ARTICLE IX—ANNUAL SESSION

There shall be an annual session of the Society and the date and place of the meeting shall be determined by the House of Delegates, but at its discretion, these may be selected by the Council.

ARTICLE X—FUNDS

Funds for the Society may be raised by a per capita assessment, voluntary contributions and other business activites. The funds shall be expended to carry out the general purposes of the Society.

ARTICLE XI—SEAL

The Society shall have a seal bearing date of organization of the Society. The power to change or renew the seal shall rest with the House of Delegates.

ARTICLE XII—BY-LAWS

The Society may adopt by-laws not in conflict with this Constitution.

ARTICLE XIII—AMENDMENTS

This Constitution may be amended at an annual session by a two-thirds vote of the House of Delegates, and ratified by the general meeting, provided such amendment is previously published in the official publication of the Society, at least a month before the annual meeting. All previous Constitutions of the Society are repealed when this Constitution is adopted and put into effect.

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ARTICLE XIV—WHEN IN FORCE

This Constitution as revised shall be in force upon its adoption by the House of Delegates, and ratification by a general meeting of the Society.

BY-LAWS

ARTICLE I—MEMBERSHIP IN THE SOCIETY

Section 1—Members of the Society are classified as active and associate. Active membership is based upon membership in a component society.

Members in good standing in component societies are eligible for active membership in the Society. All physicians in good standing in counties in which there is no component society, provided they meet all the requirements of the State Society, and have the endorsement of the present members of the Society from such county, are also eligible.

Active members, who move out of the State, become associate members of the Society. Teachers of sciences allied to medicine and medical officers of the Army, Navy and Public Health Service, temporarily stationed in Virginia, may be elected to associate membership through component societies, or by the Membership Committee. Associate members may resign membership by giving notice to the Executive Secretary-Treasurer, or, on recommendation of the Ethics Committee, be suspended or expelled by the House of Delegates for sufficient cause. Any associate member, eligible to membership in a component society, may be required by the Council to make application for membership in such component society.

Section 2—No one shall be enrolled as an active or associate member of this Society until the Executive Secretary-Treasurer has received his or her prorated annual dues.

Section 3—The privileges of voting, holding office, and serving on committees is limited to the active membership. In all other respects the status of the active and associate members is the same.

Section 4—For long, faithful or distinguished service, the House of Delegates, upon recommendation of the Membership Committee, may elect annually two resident members and one non-resident physician to honorary, active or associate membership.

Section 5—Every member, after verification of good standing from the rolls, shall register and be given a membership badge before taking part in any of the proceedings of the annual session. All badges shall be furnished by the Society.

ARTICLE II—DUES

Section 1—There shall be an annual assessment of $5.00 upon each member. These dues for each calendar year shall be made in one payment and are payable before December 31, of each year. Members joining the Society after June the 30th, shall be assessed $2.50 for the remainder of that fiscal year.

Section 2—The fiscal year of the Society for membership shall correspond with the calendar year.

Section 3—Honorary members or other deserving it, at the discretion of the President, will be exempted from the payment of annual dues. Any member over seventy (70) years of age upon his request may be so exempted by the Executive Secretary-Treasurer.

Section 4—The Executive Secretary-Treasurer is charged with the duty of collecting or adjusting past due per capita assessments, after conference with the President, and, if necessary, the Councilor of the district in which the member in arrears resides. A member, whose dues are twelve months in arrears, shall be dropped automatically from the rolls of the Society. Should such member later apply for membership, his application shall be accompanied by five dollars in addition to the dues of the current year.

ARTICLE III—COMPONENT SOCIETIES

Section 1—The component societies shall be those holding charters from the Society.

Section 2—There shall be only one component society in a county. A component society may embrace one or more counties. When a component society qualifies, it may obtain a charter upon application to the Executive Secretary-Treasurer, said charter to be signed by the President and the Executive Secretary-Treasurer. Should it seem desirable that a county unite with a county or counties in an adjoining congressional district, as a component organization, such action may be taken provided it be sanctioned by the councilor from each of the districts concerned. Such component organization shall be deemed to be in the jurisdiction of the councilor of the district in which the majority of the membership resides.

Section 3—A component society consisting of two or more counties may upon petition to the Council be divided and given separate charters, if the Council is of the opinion that such division is in the interest of medical organization.

Section 4—Each component society shall judge the qualification of its own members.

Section 5—A component society shall drop from its roll a member whose license to practice medicine in the State has been revoked or whose membership in the State Society has been lost on account of misconduct.

Section 6—A member expelled by the component society can appeal to the State Society through the Ethics Committee.

Section 7—A member may join a more convenient component society in an adjoining county, provided the component society of the county in which such member resides gives its consent.

Section 8—Each component society shall send to each annual meeting of the Society its number of delegates and alternates fixed by Article V, Section 2, of the By-Laws.

Section 9—The Secretary of each component society shall keep a roster of its members, including name, address, year of graduation, college, date of State license, and such other information as may be desired by the Society. Once a year, not later than July the 1st, the Secretary of each component society shall send a list of its members to the Executive Secretary-Treasurer of the State Society.

Section 10—The component societies shall co-operate with the officers of the State Society to carry out the plans, laws and purposes of this organization.

ARTICLE IV—GENERAL MEETINGS

Section 1—The general meetings of the Society are open to all registered members and guests.

Section 2—At each annual meeting there shall be an address by the President and by two or more invited guests.

Section 3—With the exception of the address by the President and invited guests, no address, paper, or other contributions on the program shall be longer than fifteen minutes.

Section 4—No one shall discuss a paper more than once and then for only five minutes, except the leader of the discussion of a selected symposium, who may be allowed a maximum of ten minutes.

Section 5—No contribution shall appear on the program unless the title is sent to the Executive Secretary-Treasurer within the time designated by the Program Committee and only then with the endorsement of this committee. No member may present more than one paper at an annual session.

Section 6—If the author is not present when a paper is called, it shall be placed at the end of that section of the program. An author who has been absent twice without having submitted a typewritten paper to the Secretary for publication shall be debarred from the program for two (2) years.

Section 7—All papers and contributions are the property of the Society and cannot be published elsewhere without the consent of the Publication Committee.

Section 8—The scientific work of the Society may be divided into two or more sections.

Section 9—In a general meeting, after the program of a section is completed and before the House of Delegates adjourns, a member may initiate any business matter not previously considered in the House of Delegates, to be acted upon by that body, provided a quorum of fifty (50) members be present in the general meeting.

Section 10—A rule governing the program or conduct of a general meeting may be changed only by a two-thirds vote of the members present.

ARTICLE V—HOUSE OF DELEGATES

Section 1—The first assembly of the House of Delegates shall be held on the first day named for the annual session. Subsequent meetings shall be held at hours which will not conflict with the scientific program. The reports of committees and of the Executive Secretary-Treasurer shall be published in the official publication of the Society prior to the annual session. These reports may be discussed and amended by the House of Delegates. Discussions shall be limited to five minutes.

Section 2—Each component society shall elect annually to membership in the House of Delegates, one delegate and one alternate for each thirty-five (35) members or major fraction thereof, or as the component society may elect, one delegate and one alternate from each county in such component society. In any event, each component society is entitled to at least one delegate or one alternate in the House of Delegates. In case the full number of delegates accredited to a component society are not present at the meeting of the State Society, those members present from such component society shall, from members of that society present, elect or appoint a sufficient number of delegates to complete its quota.

Section 3—Thirty delegates representing at least ten component societies shall constitute a quorum of the House of Delegates.

Section 4—The President shall preside over the meetings of the House of Delegates. The Executive Secretary-Treasurer shall be the Secretary.

Section 5—If the eligibility of any member is questioned, the President may appoint a committee on credentials to report on such member or refer the case to the Committee on Ethics.

Section 6—The House of Delegates shall elect officers of this Society as provided for in Article VI of the By-Laws.

Section 7—The House of Delegates shall elect delegates and alternates to the House of Delegates of the American Medical Association in accordance with the constitution and by-laws of that organization. Such delegates shall be elected by ballot, and each member will be allowed to vote for as many of the nominees on the ballot as there are delegates and alternates to be elected. Those receiving the highest votes will be declared elected as delegates and those receiving the next highest votes will be declared elected as alternates.

Section 8—The House of Delegates shall nominate to the Governor of Virginia at the proper time in accordance with the laws of Virginia, members of the State Board of Medical Examiners.

Section 9—The House of Delegates, at each annual session, shall have authority to approve, modify or reject the budget recommendations presented by the Council for the ensuing fiscal year. In case a budget is not presented by the Council, the House of Delegates shall have authority to prepare the budget.

Section 10—The House of Delegates may revoke the charter of a component society for violation of the laws of the Society.

Section 11—The House of Delegates may appoint special committees from its own membership or from the membership of the Society.

Section 12—The Executive Secretary-Treasurer shall make a complete yearly report to the House of Delegates at each annual session.

Section 13—All officers and delegates elected, all nominations made to the Governor and a summary of all other business transacted by the House of Delegates shall be reported to the Society at a general meeting before the close of the annual session.

ARTICLE VI—ELECTION OF OFFICERS

Section 1—The House of Delegates, at its first meeting, shall elect from its membership a Committee on Nomina-

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tions, consisting of one member from each Congressional District who shall be nominated by the delegates present from that district and, in event a district is not represented in the meeting, such nomination shall be made by the President. This committee shall report to the House of Delegates the result of its deliberations in the form of a ticket containing the names of one or more members for each of the offices to be filled at the annual session. Nothing in this section shall be construed to prevent additional nominations being made from the floor by members of the House of Delegates. The election of officers shall be by ballot and a majority vote is necessary for election. The lowest nominee will be dropped on each ballot until one receives a majority vote. In case of a tie, the president shall cast the deciding vote.

Section 2—Only active members in good standing are eligible to office.

Section 3—The House of Delegates shall at each annual session elect a President-elect for a term of one year. No member of the Society who lives in the city or county in which the Society is holding its session shall be eligible to election to the office of President-elect for the succeeding year. At the end of this term, the President-elect shall automatically become President for a term of one year.

Section 4—The House of Delegates at each annual session shall elect three (3) vice-presidents to rank accordingly, these to represent the various sections of the State, as far as possible.

Section 5—The House of Delegates shall at each annual session elect an Executive Secretary-Treasurer for a term of one year.

Section 6—On the second day of the annual meeting of the Society at such time and place as shall be designated by the President, Councilors shall be elected for a term of two (2) years by the delegates from their respective Congressional Districts, those from the odd numbered Congressional Districts on odd years, and those from the even numbered Congressional Districts on the even years. At this time should there be a vacancy in the membership of the Council and the district not represented in the meeting, the House of Delegates, on nomination by the President, shall elect a Councilor for that district.

Section 7—In case there is a vacancy in the office of President-elect, or in case the President-elect was appointed pro tempore by the Council, the House of Delegates at the annual session shall also elect a President for the following term.

ARTICLE VII—DUTIES OF OFFICERS

A. *President*

Section 1—The President shall be the executive head of the Society.

Section 2—The President shall be the presiding officer at the general meetings of the Society, president of the House of Delegates, chairman of the Council, and ex-officio member of all committees. The President shall vote in the general meetings, in the House of Delegates, and in the Council only in the case of a tie. If the President or the President-elect cannot be present, a Vice-president shall preside over the general meetings, the House of Delegates, the Council or special scientific sections.

Section 3—The President shall deliver the annual address and shall have the privilege, after conference with the chairman of the Program Committee, of inviting two or more guest speakers for the annual session.

Section 4—The President, in conjunction with the Committee on Publication and Program, shall prepare the annual scientific programs.

Section 5—The President shall fill any vacancy occurring between annual sessions in the Council, delegates to the American Medical Association, and standing committees, and such appointments shall be valid until the end of the next annual session. He shall appoint any necessary special committees at the time he takes office, or during the year.

Section 6—The President shall visit as many of the component societies of the State Society as possible during the year, in the interest of the Society, actual expenses incurred being paid in accordance with budget determined upon by the House of Delegates.

B. *President-Elect*

Section 7—The President-elect shall be an ex-officio member of the House of Delegates and an ex-officio member of the Council. The President-elect shall act for the President in his absence or temporary disability, and shall automatically succeed to the presidency at the end of the term.

Section 8—The President-elect, at the annual session when he assumes the office of President, shall appoint one member in place of the retiring member on each standing committee and shall name the chairmen of the standing committees for the ensuing year. Announcement of these names shall be made at the general meeting when he assumes office.

C. *Vice-Presidents*

Section 9—The Vice-presidents shall assist the President in the discharge of his duties and the Councilors in their districts in the organization of component societies. In event of the permanent disability, death or resignation of the President, a Vice-president, according to rank, shall succeed him for the remainder of his term of office.

D. *Executive Secretary-Treasurer*

Section 10—The Executive Secretary-Treasurer of the Society shall be the executive agent of the Society, the secretary of the general meetings, secretary of the House of Delegates, secretary of the Council, and general manager of the official publication of the Society.

Section 11.—The Executive Secretary-Treasurer shall be the custodian of all property of the Society, provide for registration of members at general meetings, conduct the general correspondence of the Society, and, with the consent of the President, employ necessary assistance.

Section 12—The Executive Secretary-Treasurer shall collect all money due the Society and pay out these funds upon written order of the President, or upon his desig-

nated authority. The Executive Secretary-Treasurer shall be bonded as approved by the Council.

Section 13—At a time designated by the Program Committee the Executive Secretary-Treasurer shall mail notices to members, asking for papers and shall, under the direction of the Publication and Program Committee, prepare and send to each member a program of the annual session.

Section 14—The Executive Secretary-Treasurer shall make a complete yearly report to the House of Delegates at each annual session.

ARTICLE VIII—COUNCIL

Section 1—The Council shall consist of the President, President-elect, First Vice-president and one member from each Congressional District. The Council shall be the executive and finance committee of the House of Delegates and shall have charge of the business affairs of the Society when the House of Delegates is not in session. The President shall be the chairman of the Council and the Executive Secretary-Treasurer shall be its secretary.

Section 2—Each Councilor shall be the organizer, advisor and censor for his district. Each Councilor may visit each component society in his district once a year either on invitation or as may be necessary.

Section 3—Four members of the Council together with the President or President-elect shall make a quorum. Actual expenses may be paid members attending meetings of the Council in the interim between the annual sessions.

Section 4—At each annual session, the Council shall present a budget for the next fiscal year, based on the expected income and expenditures during this period, which budget shall be presented to the House of Delegates for its approval.

Section 5—The Council shall be charged with the duty of organizing the whole state into component societies, and, at each annual session, shall report on this work to the House of Delegates, with recommendations. The Council shall recommend to the House of Delegates the revocation of a charter of a component society when such component society flagrantly violates the rules of the Society.

Section 6—The Council shall provide offices for the Society headquarters.

ARTICLE IX—STANDING COMMITTEES

The Standing Committees of the Society shall be as follows:

1. Publication and Program.
2. Scientific Exhibits and Clinics.
3. Department of Clinical and Medical Education.
4. Legislation.
5. Medical Economics.
6. Membership.
7. Ethics.

Each of these Committees, with the exception of the Department of Clinical and Medical Education and the Committee on Medical Economics, shall consist of three members, whose term of office shall be for three years. The members having first been appointed for one, two and three years, the incoming President shall appoint to fill vacancies created by expiration of term of office, and shall name the chairman of each committee. No member may serve on more than one standing committee the same year.

The Department of Clinical and Medical Education shall consist of the State Health Commissioner, the immediate ex-president, who shall be chairman; one member each from the two medical schools of the State, and two members of the Society from the State at large, the last four to be appointed by the incoming President.

The Committee on Medical Economics shall consist of six members, whose term of office shall be for three years, two to be appointed each year by the incoming President, who shall also name the chairman.

All committees shall make reports annually to the House of Delegates. The chairman of all standing or special committees not members of the House of Delegates, shall have the privilege of the floor when reporting to the House or in any incidental discussions.

Actual expenses of members of such committees required to do official work in the interim between annual sessions may be paid upon the recommendation of the chairman of such committees and the endorsement of the President, if presented within thirty days after the meeting, provided budget allowance be made for such purpose in accordance with Art. VIII, Section 4.

All unexpended balances that may be in the hands of any Committee shall on or before September 30th of each year revert to the general treasury.

Publication and Program

Section 1—The Committee on Publication and Program shall conduct the affairs of the official publication of the Society in accordance with the expressed policy and adopted budget of the Society. Its chairman shall be Editor of the official publication of the Society. He may attend the meetings of the Council and House of Delegates and have the privilege of the floor in these bodies. This Committee shall also have charge of the preparation of the annual program.

Scientific Exhibits and Clinics

Section 2—The Committee on Scientific Exhibits and Clinics shall have charge of the scientific exhibits and clinics for the annual sessions, in co-operation with the President. This committee shall endeavor to stimulate interest in scientific and research work among the members of the Society, and may institute appropriate methods to this end.

Department of Clinical and Medical Education

Section 3—The Department of Clinical and Medical Education shall endeavor to bring about co-operation of the Society with the medical schools, hospitals, clinics, and other teaching institutions of the State with the idea of maintaining the highest standards in these institutions; and to use every means to encourage and advance medical science, and bring it within easy reach of the postgrad-

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uate practitioners of the State. The retiring President shall be chairman of this Committee.

Legislation

Section 4—The Committee on Legislation shall endeavor to secure and enforce legislation in the interest of public health, scientific medicine, and the moral, social, fraternal, and ethical betterment of the medical profession in the State.

Medical Economics

Section 5—The Medical Economics Committee shall be the Committee to which are referred all questions of the business relationships of the Society.

Membership

Section 6—The Committee on Membership shall pass upon the applications for membership of those not members of a component society and make recommendations for honorary membership. The Committee shall also, through co-operation with component societies and the Executive Secretary-Treasurer, prepare proper obituaries for deceased members.

Ethics

Section 7—The Committee on Ethics shall consider all matters involving ethics and conduct of members on appeal from the component societies and may act independently in cases not under the jurisdiction of a component society.

All charges against any member shall be in writing, specifically stated, and signed by the accuser. The individual accused and under investigation shall be entitled to a personal hearing or representation. No charge against a member shall be heard by the Society or the House of Delegates, unless it has first been referred to the Committee on Ethics.

No motion or discussion of expulsion, suspension or other censure of any member shall be allowed unless such member shall have been given two months' notice through the Committee on Ethics. The committee shall make its report to the House of Delegates at the first meeting during the annual session.

No member shall be expelled from the State Society except by a vote of three-fourths of the members of the House of Delegates present. Should the member come forward within twelve months succeeding his or her expulsion and offer satisfactory explanation, he or she may be reinstated, provided three-fourths of those present in the House of Delegates concur.

ARTICLE X—OFFICIAL PUBLICATION

The official publication of the Society shall be known as the VIRGINIA MEDICAL MONTHLY. Publication of the journal shall be under the control of the Publication and Program Committee which shall co-operate in every way with the various committees of the Society for the good of the organization.

ARTICLE XI—ETHICS

The ethical principles governing the members of the American Medical Association shall govern the Society.

ARTICLE XII—RULES OF ORDER

The deliberations of the Society shall be conducted in accordance with parliamentary usage as defined in Roberts Rules of Order.

ARTICLE XIII—AMENDMENTS

These By-Laws may be amended by a two-thirds vote of the House of Delegates, provided such amendment is proposed in writing and has laid on the table for at least one day. All previous By-Laws of this Society are repealed when these By-Laws are adopted and put into effect.

ARTICLE XIV—WHEN IN FORCE

These By-Laws shall be in force upon adoption by the House of Delegates and ratification by a general meeting of the Society.

(*Editor's Note*—The Constitution and By-Laws will be reprinted in pamphlet form. Any member wishing a copy, should advise the Society's office, 1200 East Clay Street, Richmond, by March 15, as the number will be limited.)

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association:

Parke Davis & Company

Antipneumococcic Serum (Felton) Type I, Refined and Concentrated, 20,000 unit ambot package.

Antipneumococcic Serum (Felton) Type I, Refined and Concentrated, 50,000 unit ambot package.

Antipneumococcic Serum (Felton) Types I and II, Refined and Concentrated, 20,000 unit ambot package.

Antipneumococcic Serum (Felton) Types I and II, Refined and Concentrated, 50,000 unit ambot package.

Antipneumococcic Serum (Felton) Type II, Refined and Concentrated, 20,000 unit ambot package.

Antipneumococcic Serum (Felton) Type II, Refined and Concentrated, 50,000 unit ambot package.

The Upjohn Company

Ampoules Mercuric Salicylate, 0.065 Gm. (1 grain), 1 cc.

Ampoules Mercury Succinimide, 0.2 Gm. (1/3 grain), 1 cc.

Ampoule Solution Quinine and Urea Hydrochloride, 0.5 Gm. (7 1/2 grains) 1 1/2 cc.

Propaganda for Reform

Why Acetarsone for Syphilis.—The use of acetarsone as an antisyphilitic drug which could be taken by mouth has been reviewed recently by Pillsbury and Perlman, who

studied 187 cases of congenital syphilis at the Sigma Clinic of the Children's Hospital, University of Pennsylvania School of Medicine. Their conclusions corroborate the previous statements made by the Council on Pharmacy and Chemistry. The investigators emphasize that acetarsone, although an active antisyphilitic agent by mouth, is less rapid in action than arsphenamine and is inferior to both arsphenamine and bismuth preparations in arresting congenital syphilis. In their series of cases they found a high incidence of reactions. They concluded, indeed, that adequate experimental background for determination of the toxicity and spirocheticidal effect of individual lots of acetarsone is not available. In addition they observed that regularity of attendance of patients at the clinic was not increased by the use of oral therapy as compared to the injection method of administration and that acetarsone is probably not administered as directed to patients treated at home. The ease of administration of an oral spirocheticide is sufficiently desirable to encourage the search for an effective antisyphilitic drug which can be given by mouth. Every preparation must be considered, however, in relation to others as to its effect on syphilis, irrespective of the mode of administration required. Because of its inferiority of effectiveness, acetarsone cannot be recommended for general use in the treatment of syphilis. In most reports the ease of administration has been emphasized as an important advantage of acetarsone therapy. This should not excuse the critical examination of the results obtained, which thus far seem to be poorer with acetarsone than with other arsenicals of less toxicity. (*J. A. M. A.*, November 25, 1939, p. 1969.)

Magnesium in Nutrition.—The human requirement for magnesium has been studied by a number of investigators. On the basis of balance experiments, the daily magnesium requirement of children from four to seven years of age has been estimated to be not less than 13 mg. per kilogram of body weight. The meager information that is available regarding the magnesium requirement of pregnant women indicates that from 350 to 450 mg. daily is necessary during pregnancy. The daily magnesium requirement for the maintenance of adults has been reported to be as low as 0.2 Gm. and as high as 0.6 Gm. Judging from data available on the magnesium content of freely chosen American diets, the requirement will be met provided the daily energy intake is in the vicinity of 2,500 calories. The possibility of adult human deficiency cannot be ruled out, however, until further information is available concerning the magnesium requirement. So little is known of the function of magnesium in the organism that clinically observable abnormalities in man cannot at present be said with certainty to be due to magnesium deficiency or to a disorder of magnesium metabolism. The systematic study of magnesium metabolism by accurate analytic and experimental methods is little more than begun. (*J. A. M. A.*, October 7, 1939, p. 1418.)

Dilantin Sodium.—The Council on Pharmacy and Chemistry reports that sodium 5, 5-diphenyl hydantoinate, originally presented under the name Dilantin, had been redesignated "Dilantin Sodium" and is now marketed by Parke, Davis & Co. as "Kapseals Dilantin Sodium." Dilantin Sodium is an active anticonvulsant and relatively feeble hypnotic, used in the treatment of epilepsy. While the clinical studies of H. H. Merritt and Trace J. Putnam, and of O. P. Kimball, pointed to the therapeutic value of the drug the Council requested additional information. Pharmacologic studies were conducted in the laboratories of Parke, Davis and Company, and clinical investigations were made in a number of institutions, five of them in institutions for the treatment of epilepsy and kindred conditions. The pharmacologic studies show that Dilantin Sodium is of relatively low toxicity when administered orally to rats, rabbits and dogs, and much more toxic when injected intravenously. The side actions reported by one or more of the investigators include dizziness, dry skin, dermatitis, rash, itching, tremors, fever, nausea, vomiting, blurred vision, fatigue, apathy, difficult breathing and swallowing, nervousness, mental confusion and active hallucinations. The Council voted to accept Dilantin Sodium for inclusion in New and Nonofficial Remedies following receipt of an agreement from Parke, Davis & Co. that it would market the product under rigid restrictions, including those which further experience shall indicate, as well as the following: (a) It shall not be recommended for use by the general practitioner unless he is able to maintain a close (daily) supervision of the patient until the scope of its usefulness as well as its side actions have been determined more accurately; (b) it is not to be recommended for the treatment of those patients whose seizures occur only at long intervals unless moderate doses of phenobarbital are ineffective or induce disagreeable side actions. The A. M. A. Chemical Laboratory has found the composition of Dilantin Sodium satisfactory. (*J. A. M. A.*, November 4, 1939, p. 1734.)

Book Announcements

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Knower, H. McE.—A resurvey of the development of lymphatics and associated blood vessels in anuran amphibia by the method of injection.

Koch, W. F.—The chemistry of natural immunity.

Krogh, A.—Osmotic regulation in aquatic animals.

Livingston, W. K.—Clinical aspects of visceral neurology.

Logie, H. B.—Standard classified nomenclature of disease.

Long & Bliss—The clinical and experimental use of sulfanilamide, sulfapyridine and allied compounds.

Macartney, W. N.—Fifty years a country doctor.

Marsh, L. C.—Health and unemployment.

McCall, J. O.—Fundamentals of dentistry in medicine and public health.

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Morton, D. J.—Oh, doctor! my feet.
Portmann, G.—A treatise on the surgical technique of otorhinolaryngology.
Price, W. A.—Nutrition and physical degeneration.
Rorty, J.—American medicine mobilizes.
Ryan, W. C.—Mental health through education.
Schneider, E. C.—Physiology of muscular activity.
Sears, P. B.—Who are these Americans?
Spaeth, E. B.—The principles and practice of ophthalmic surgery.
Steindler, A.—Mechanics of normal and pathological locomotion in man.
Straub, G. F.—Surgery of the chest.
Streit, C. K.—Union now.
Sutherland, H.—Arches of the years.
Timbres, H. & R.—We didn't ask Utopia.
Van Dyke, H. B.—The physiology and pharmacology of the pituitary body.
Vaughan, W.—Practice of allergy.
Warren, S.—The pathology of diabetes mellitus.
Wechsler, D.—The measurement of adult intelligence.
Whitnall, S. E.—Anatomy of the human orbit.
Wolf, W.—Endocrinology in modern practice.

Endocrine Gynecology. By E. C. HAMBLEN, B.S., M.D., F.A.C.S., Associate Professor of Obstetrics and Gynecology, Duke University School of Medicine; Gynecologist in Charge of the Endocrine Division and Sex-Endocrine Clinic, Duke University Hospital, Durham, North Carolina. Foreword by J. B. Collip, M.D., Gilman Cheney Professor of Biochemistry and Pathological Chemistry McGill University, Montreal. Charles C. Thomas. Springfield, Ill. 1939. 453 pages. Illustrated. Cloth. Price, $5.50.

Reviewed editorially in this issue of the MONTHLY.

Virus and Rickettsial Diseases. With Especial Consideration of Their Public Health Significance. A Symposium held at the Harvard School of Public Health, June 12-17, 1939. Cambridge, Massachusetts. Harvard University Press. 1940. Octavo of xi-907 pages. Cloth. Price, $6.50.

Reviewed editorially in this issue of the MONTHLY.

Experimental Pharmacology and Materia Medica. By DENNIS E. JACKSON, Ph.D., M.D., F.I.C.A., Cincinnati, Ohio., Professor of Pharmacology, Materia Medica and Therapeutics, University of Cincinnati, School of Medicine; Formerly Associate Professor of Pharmacology, Washington University Medical School, St. Louis. Second Edition. St. Louis. The C. V. Mosby Company. 1939. Octavo of xxii-906 pages. With 892 Illustrations, including 55 color plates. Cloth. Price, $10.00.

The first edition of this book was published in 1917 and has been a much cherished "Bible" for those of us in pharmacology ever since. It has been out of print for twenty years, and the release of a new second completely revised edition has been awaited with much anticipation. Like its predecessor, this new volume represents the finest book of its type in the world, replete with up-to-the-minute pharmacological information and technical pharmacological procedures, written masterly by one respected and beloved by his colleagues. It will be of tremendous value to students and teachers of pharmacology and should appeal to all medical men interested in keeping abreast with the progress of pharmacology.

H.B.H.

Anatomy and Physiology. By FREDERIC THEODORE JUNG, B.S., Ph.D., M.D., Assistant Professor of Physiology and Pharmacology, Northwestern University Medical School; Member of Visiting Staff, Norwegian American Hospital, Chicago. ANNA RUTH BENJAMIN, B.A., M.D., Resident Physician, Elgin State Hospital, Elgin, Ill. ELIZABETH CARPENTER EARLE, B.A., R.N., Educational Director, School of Nursing, St. Elizabeths Hospital, U. S. Department of Interior, Washington, D. C. Philadelphia. F. A. Davis Company. 1939. Octavo of xxii-637 pages. With 342 illustrations. Cloth. Price, $3.50.

In this new textbook for the instruction of nurses, the authors purposely abandon the conventional arrangement of the material and omit unnecessary details carried along traditionally in most texts. Thus, without doubt, they succeed in making their subject both interesting and practical. The outstanding feature is that each topic is first treated from the anatomical and then from the physiological point of view, finally followed, wherever possible, by application of the special subject to problems of nursing or of personal hygiene. Proper emphasis is placed upon the histology of the various tissues and the activities of the individual cells. Since the book has left the traditional pathway, critical readers will miss not only one or the other detail but even larger topics still regarded as essential by many instructors. For instance, a chapter on vitamins is missing. In the whole book, the only mention of this subject is the casual remark that the absence of vitamin D causes rickets. The illustrations are numerous and well chosen concerning their subjects. However, many of the histological and cross anatomical figures are not of a high didactic or artistic standard.

ERNST FISCHER.

Do You Want to Become a Doctor? By MORRIS FISHBEIN, M.D., Editor, *Journal of the American Medical Association.* Frederick A. Stokes Company. New York. 1939. 12mo of xiii-176 pages. Cloth. Price, $1.50.

Although this book is written, as the title implies, for the student, our review is written rather for the doctor. The book is mainly a report showing how the acceptable colleges and hospitals of the United States and Canada have complied with the require-

ments of the Council on Medical Education and Hospitals of the American Medical Association. The report is complete and so impartial that even the cults can not take exception.

In addition there are chapters on Pre-medical Education. The Intern, The Specialist, The Future of Medicine, with notes on Socialized Medicine.

The great advance made in improving the standards of medical education and the consequent requirements of the various schools and examining boards have reached a point now where it is wellnigh impossible for a young man to prepare himself for the practice of medicine without undergoing training over a period of from eight to twelve years.

There is no other calling which holds the new recruit back so long before allowing him to take his place on the firing line. To your youthful patient appealing for assistance in vocational guidance this will seem almost insurmountable.

A certain celebrated evangelist criticized the average minister of the gospel for his tendency to aggravate the timidity of the new convert by dilating on the obstacles and difficulties he would encounter in following the "straight and narrow way". He illustrated by saying that if it were possible to make a new-born babe understand that, before attaining full manhood, he would have to run the gauntlet of measles, chicken pox, mumps, whooping cough, scarlet fever and perhaps take a chance on diphtheria, small pox and a few broken bones, the poor little infant would get such a shock that his first gasp for breath might very nearly prove his last.

And so, doctor, if you would appreciate the remarkable progress that has been made and is still being made in improving the standards of medical education and if you want to feel a pride in the calling you have adopted, by all means read this book; but for pity's sake do not give it to the pre-medical babe unless in broken doses.

EDWARD MCCARTHY.

Emotions—Their Psychological, Physiological, and Educative Implications. By FREDERICK H. LUND, PH.D., Professor of Psychology, Temple University. The Ronald Press Company. New York. Pages 305. 1939.

Frederick H. Lund, Ph.D., is professor of psychology at Temple University. This is a book embodying a deep knowledge of the subject from the psychiatric and neurological viewpoints as well as from the psychological, physiological, and educative side mentioned in the sub-title. It is good to be an M.D. and be able to praise a Ph.D. for a comprehensive and understanding book on what is essentially a medical subject and a difficult one at that. In this book the illustrations and diagrams are numerous and apropos and the bibliography is complete, the arrangement of subject matter is all that could be asked for, and the writing is scholarly, interesting, and sufficiently non-technical to be understood by an intelligent layman.

Emotions give us our desires, our delights, and our distresses, they make us hellions or saints, cowards or dare-devils, and they lead us to philanthropy or to misanthropy. Emotions must be balanced, guided, and controlled by insight, reason, and judgment if they are to function at the maximum of beneficence and only in the individual can they be thus conditioned—the mass does not reason and the mob lets emotions run wild. These things are interesting, but they treat only of emotions in their expression. One has to go to the researchers, to experimenters, to scientists, and to scholars like Dr. Lund to learn of emotional centers and their pathways and controls and of the effect of the emotions on the various tissues of the body and upon the individual as a whole.

Lund first identifies emotions and then takes up the neuro-glandular basis of reactions, the cardiovascular and respiratory changes, the gastrointestinal and sexual changes, the metabolic and skin manifestations, the development of control, and the motivation. Each chapter in the book is summarized and the last chapter consist of conclusions drawn from the book as a whole.

Lund reviews the theories of the mentalists who feel that emotions belong to the mind of consciousness and arise through the perception of the emotion-producing object or situation. He considers McDougall's idea of emotions as affective phases of specific instincts, and also the James-Lang theory that emotional consciousness was not a cause but an effect of bodily changes, and cites Rexroad's idea of visceral changes and the theories of behavior patterns. He proceeds by indicating that emotion is not a response to a form of conscious content, but agrees with Bentley that it is a complex activity involving beginning, course, and ending. He finds himself in general agreement with Cannon, Bard, and Dana that emotional changes within the somatic as well as those of the visceral system have their origin in the region of the hypothalamus of the diencephalon. He also

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appears to believe that emotions travel, with cortical control, through the autonomic nervous systems and their connections with the cerebrospinal system.

Altogether this is an enlightening book, deep in its research, wide in its investigations, and high in its conjectures based upon our present knowledge.

BEVERLEY R. TUCKER, M.D.

Practical Obstetrics. By P. BROOKE BLAND, M.D., Emeritus Professor of Obstetrics, Jefferson Medical College; Consulting Obstetrician, Jefferson Medical College Hospital, Philadelphia. And THADDEUS L. MONTGOMERY, M.D., Clinical Professor of Obstetrics, Jefferson Medical College, Philadelphia. Third Edition Revised. Philadelphia. F. A. Davis Company. 1939. Octavo of xxiv-877 pages. Illustrated with 502 engravings, including twenty- seven colored plates. Cloth. Price, $8.00.

This book had its origin in a series of obstetrical tables prepared for the use of the students of the Jefferson Medical College. Dr. Bland is emeritus professor of obstetrics and Dr. Montgomery is clinical professor of obstetrics of that college.

Its purpose according to the preface is to fill the important place between a small manual and a large work in obstetrics.

In looking at the index one is at once struck by the fact that the information is handled in a different way from the usual textbooks.

For instance chapter xxv is devoted to Obstetric Jurisprudence and a Section of Reference Reading while there are no references at the end of the chapter and very few in the text. One wonders if the average medical student will take the trouble to turn to the end of the book for further information.

As I turned the pages the very first illustration arrested my attention as if someone had pulled my arm. It seemed to be in three dimensions. The rest of the illustrations are good particularly the colored ones of the cervix in cases of trichomonas vaginalis and monilia.

There is no extra padding in the text, in fact the bones of information rattle around a little because of the absence of a filler-in.

Interested to find out about the breasts I had to seek the guidance of the index in order to get the complete story. The anatomy of the breasts and the physiology of milk production were in entirely different parts of the book. When found the description was brief but clear.

The tables of differential diagnosis are very fine throughout the whole book and sufficient of themselves to justify the purchase of Practical Obstetrics.

A diagnosis of presentation and position of the foetus is difficult enough when the bare hands and arms are used. In the illustrations of abdominal palpation for diagnosis the hands are sheathed in rubber gloves and the arms in many illustrations ar covered with sleeves.

The distinguished authors have carried throu brilliantly their plan, as indicated in the preface, o writing a book that fills the important place betwee a small manual and a large work.

I recommend it to my students new and old.

G.B.

Synopsis of Pediatrics. By JOHN ZAHORSKY, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; Fellow of the American Academy of Pediatrics. Assisted by T. S. ZAHORSKY, B.S., M.D., Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Third Edition. St. Louis. The C. V. Mosby Company. 1939. 12mo of 430 pages. Illustrated. Imitation leather. Price, $4.00.

The fact that Zahorsky's Synopsis of Pediatrics has reached its third edition is evidence of its popularity. That these three editions have been put out in the past five years indicates the rapid advance of medical science and the realization of the writers that such a volume must be up to date for its greatest value.

The new edition contains the more recent advances in Pediatrics. Among these are the accumulatin knowledge on the vitamins, the use of sulphanilamic in streptococcic infections and of sulfapyridine in pneumonias, the occurrence of malignant neutrophilias, the allergic diseases with the mention of potassium chloride as a new drug in this field for therapy, the use of tetanus toxoid in the group of prophylactic biologicals, the significance of mineral oil in the etiology of lipoid pneumonia and the increasing incidence of Rocky Mountain Spotted Fever. Space is also given to a short discussion of mental hygiene as a pediatric concern.

A new section is added at the close of the book on Poisons and Bites and an appendix is added giving the dosage of the most important drugs used for infants under one year of age.

The book is of particular value to students who want the maximum amount of information in the minimum of time and space. It makes no attempt to give an exhaustive discussion on any subject.

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Editorial

The Tri-State Meeting.

The two days of scientific sessions recently conducted in Richmond by the doctors of the Carolinas and Virginia were crowded with a busy program. Once again it has been demonstrated that there is much to be learned from a meeting of this character. Five hundred doctors having so much in common find a great deal to challenge them in what is said by the scheduled esayists, but perhaps even more is derived, though with less formality, from touching shoulders with one's neighbors in the exchange of ideas and experience. Here is hoping that the Tri-State comes back to Virginia soon.

Three Amendments.

To the Governor's proposal for reorganizing the State Hospital Board three amendments at least should be offered:

1. The Director of the Virginia State Hospitals for Mental Patients shall be a licentiate of the Board of Licensure of the American Psychiatric Association.

2. The Director of Virginia State Hospitals for Mental Patients shall be appointed by the Governor on recommendation of the State Hospital Board, and can not be dismissed except on recommendation of a majority of the Board.

3. The State Hospital Board shall consist of seven members, of whom at least three shall be physicians. At least one of the latter shall be a psychiatrist.

Only by such changes will the care of Virginia's ten thousand mental patients be kept out of politics and under the control of a Board qualified to render expert supervision.

Bootleg Chiropractors.

Chiropractors appeared before the Legislature in force at a recent hearing of a bill designed to establish an independent board in this State. The occasion was remarkable not only for the fact that the bill was actually reported out of the Committee—only heroic effort on the part of the Society's Legislative Committee secured its recommittal—but for the fact that no less than seventy chiropractors are said to have openly boasted before the law makers of illegally practising their profession in the State of Virginia. This mass confession suggests that the only final and effective method of eliminating this cult from the State is a more vigorous prosecution in the courts of all future offenders. Should the law be strengthened to include severer penalties for its infraction and should each local infraction of the law be summarily dealt with, the people of Virginia would be quickly rid of a cult whose existence within the State presents a hazard to health hitherto only vaguely appreciated.

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Miniature Films.

The General Electric X-ray Corporation announces the successful "development of a reasonably accurate yet relatively inexpensive method of applying X-ray examination to large groups of people." The method consists of photographing the fluorescent image on 4″ x 5″ films. An extremely fast screen has been developed as well as a specially prepared lens capable of producing a very sharp image. The method is apparently superior to the use of sensitized paper, fluoroscopy and the smaller 35-mm film.

At the last meeting of the Radiological Society of America, Potter, Douglas and Birkelo reported, in a comparative study of 1,610 chests, using the standard 14″ x 17″ and the new 4″ x 5″ films, results which indicate the surprising accuracy of the new method. There was an error of only 2.6 per cent in a total of 271 active lesions demonstrated by both methods. The new photoroentgenographs are employed without preliminary tuberculin testing, are relatively inexpensive, and should therefore have a place in mass surveys for pulmonary tuberculosis.

Virus Diseases.

The Harvard University Press under the title of *Virus and Rickettsial Diseases* has just issued a significant volume. To have told the medical profession of the late nineteenth century, just catching its breath with excitement over the revolution in knowledge that bacteriological discovery was creating, that a new group of communicable diseases, even more numerous than those due to bacteria, was soon to be discovered would have staggered their imagination. It is probably true that the medical profession as a whole has still a very poor conception of the extent and importance of virus diseases, and of the mass of important material that has been assembled concerning them within the last ten years. Remarkable as it may seem, the last edition of a standard textbook of medicine still classifies all the diseases in this enormous field as diseases of unknown origin.

This latest book on the subject is made up of the collected papers which were read at a symposium held at the Harvard School of Public Health June 12-June 17, 1939. It is a contribution of some twenty-odd authorities, and is packed with information of great interest. Every doctor owes it to himself to read this book, for it can be truthfully stated that no group of diseases has greater economic or hygienic significance than the infections caused by filterable viruses.

In view of the recent interest in the role of the intestinal tract in poliomyelitis and the possible spread of the disease through fecal contamination great importance attaches to a paragraph in John E. Gordon's chapter on *Epidemiologic Problems in Virus Diseases.* Says Professor Gordon: "The general absence of virus diseases of the gastro-intestinal tract of man is just as striking as the universal transmission of rickettsial diseases by insects. In reasoning about the probable nature of infectious agents in a diseases of unknown cause, it is well to remember that a bacterium or a virus is most likely if transmission is by secretions from the respiratory tract; a recognized arthropod vector suggests a virus, a protozoan, or one of the rickettsiae; a strictly gastro-intestinal disease is probably not due to a virus."

E. C. Hamblen's Monograph.

It is with pride that we call the attention of the doctors of Virginia to an important publication by a recent graduate of one of our own medical schools. Dr. E. C. Hamblen's *Endocrine Gynecology* (Charles C. Thomas, Baltimore) is the book to which we refer. At a time when the medical profession is being flooded with a hundred and one new endocrine products, manufactured by a score of proprietary concerns, and marketed under the guise of enough strange names to stagger a lexicographer, it is refreshing to read a restrained and conservative monograph dedicated to a clinical appraisal of the sex hormones. There is apparently still much rubbish to be cleared from the large field between the "physiological and pharmacologic properties of chemically pure hormones or extract of hormone" as exhibited in the laboratory, and their clinical value when given adequate bedside trial. Dr. Hamblen's book interprets clearly and fairly data of this sort in language understandable by the average doctor.

Proceedings of Societies

The Augusta County Medical Association

Held its regular quarterly meeting at the Stonewall Jackson Hotel, Staunton, on February 7. Thirty-six members of the Society and three guests, Drs. J. F. Thaxton and E. E. Serrano of the du Pont Company, Waynesboro, and Dr. E. M. Landis of the University of Virginia, were present.

After the transaction of the business, the following practicing physicians of Augusta County were elected members: Dr. G. F. Hollar of Waynesboro and Dr. C. F. Gaylord of Staunton. Dr. Leland C. Brown of Staunton became a member by transfer from the Cabell County Society of West Virginia.

The scientific program consisted of an illustrated address by Dr. Eugene M. Landis, Professor of the Practice of Medicine of the Medical School of the University of Virginia on "The Diagnosis and Treatment of Peripheral Vascular Diseases". This was followed by a twenty-minute moving picture illustrating "Transverse Cervical Caesarian Section".

Following the business and scientific session, members of the Society and their guests enjoyed supper at the hotel.

A called meeting of the Augusta Medical Society was held on February 13, to consider House Bill No. 120 and House Bill No. 200. Resolutions from the Society covering these bills were forwarded to the Senator and Representatives from this District.

J. E. COX, *Secretary.*

The Fourth District Medical Society

Held its regular meeting at Emporia on February 13, with the president, Dr. Munford Yates of Petersburg, presiding. The following scientific program was presented: Skin Diseases by Dr. Hilmar Schmidt, Petersburg; Ambulatory Treatment of Fractures of the Lower Extremity by Dr. R. L. Raiford, Franklin; Clinical Use of the Male Sex Hormone by Dr. Samuel A. Vest, University; and Acute Respiratory Diseases in Infants and Young Children by Dr. Wm. B. McIlwaine, Petersburg.

At the business meeting, it was announced that representatives in the General Assembly from the fourth district had been instructed to oppose the chiropractic bill. Also, the Society went on record as being in favor of giving negro physicians of Virginia the privilege of attending the scientific sessions of the Medical Society of Virginia. It was noted that since the organization of the Postgraduate Medical Society in 1927, negro physicians in that territory had been invited and attended their scientific sessions.

In response to recommendation from the Southside Virginia Medical Association, motion was made and adopted that the Fourth District Society would be glad to have the Southside Association consolidate with them, if and when similar action is taken by the whole Southside Association.

A letter was read from Dr. E. C. L. Miller, Directing Librarian of the Medical College of Virginia, offering the services of that Library, and appreciation was expressed for this offer.

Albemarle County Medical Society.

At the January meeting of this Society, the following officers were elected: President, Dr. H. B. Mulholland; vice-president, Dr. R. G. Magruder; and secretary-treasurer, Dr. Wm. H. Wood, Jr. (re-elected).

James River Medical Society.

Dr. Nash Snead, Cartersville, is now president of this society and Dr. Garland Dyches, Dillwyn, secretary.

Norfolk County Medical Society.

Owing to the death of Dr. Harvie S. Baker, president of this Society, Dr. James W. Anderson, president-elect, has succeeded to the presidency for the balance of the current year, as well as the following year, the term for which he was elected.

LOCKBURN B. SCOTT, *Secretary.*

Richmond Academy of Medicine.

The Section on the History of Medicine of the Academy held its annual banquet and meeting on February 13, with the chairman, Dr. William Branch Porter, presiding. The guest of honor was Dr. Russell L. Haden, Chief of the Medical Section of the Cleveland Clinic, Cleveland, Ohio, who spoke before the general meeting of the Academy, following the banquet.

Officers elected were: chairman, Dr. J. Morrison Hutcheson; vice-chairman, Dr. E. H. Terrell; and secretary-treasurer, Dr. A. Stephens Graham.

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Roanoke Academy of Medicine.

At the regular meeting of the Academy on February 5, the following scientific program was presented: Treatment of Pellagra with Nicotinic Acid by Dr. Julian M. Ruffin, Duke University, Durham, N. C.; and Roentgen Therapy of Hemangiomas and Hygromas in Infants and Children by Dr. Fred M. Hodges, Richmond.

Dr. L. G. Richards is president and Dr. D. B. Stuart, secretary-treasurer.

News Notes

The Stuart McGuire Lectures,

Held under the auspices of the Medical College of Virginia, are scheduled to be held in Richmond on April 16 and 17, at the time of the postgraduate clinics of the college. Obstetrics is the subject for discussion this year, with Dr. Frederic C. Fluhmann of Leland Stanford University as the Stuart McGuire lecturer, and Dr. N. J. Eastman of Johns Hopkins University, Dr. Louis Douglas of University of Maryland, Dr. Tiffany J. Williams of University of Virginia, and Dr. Bayard Carter of Duke University, as speakers for the post-graduate clinics.

News from University of Virginia, Department of Medicine.

Drs. Edwin P. Lehman and Floyd Boys gave a report of their investigations on the Control of Intraperitoneal Adhesions with Heparin before the Lynchburg Academy of Medicine on January 8.

Sir James Purves Stewart, a distinguished neurologist of London, England, and Dr. Beverley R. Tucker, of Richmond, visited the Medical School on January 12.

Mr. Philipp B. Philipp of New York City and Albemarle County, Virginia, has contributed a gift of $3,000.00 to the Department of Radiology for the purchase of additional X-ray equipment.

On February 7, Dr. Samuel A. Vest spoke before the Fourth District Medical Society in Petersburg on The Clinical Use of the Male Sex Hormones.

Dr. Eugene M. Landis spoke before the Virginia Peninsula Academy of Medicine, meeting in Newport News, on December 18, on the subject of Diagnosis and Treatment of Peripheral Vascular Diseases. On January 22, he addressed the St. Elizabeth's Hospital Staff in Richmond, on the subject, Recent Work on the Pathogenesis of Hypertension. On February 7, he spoke before the Augusta County Medical Association in Staunton, on Diagnosis and Treatment of Peripheral Vascular Diseases; A General Survey.

At the meeting of the American Microscopical Society in Columbus, Ohio, in December, Dr. H. E. Jordan was elected President.

On February 8, Dr. H. E. Jordan spoke before the Virginia Chapter of Sigma XI on the subject of the Origin and Significance of the Giant Cells of the Lungs.

News Notes from Duke University School of Medicine and Duke Hospital.

The following clinics have been held recently:

January 26, "Testosterone Therapy in Hypogenitalism", by Dr. Samuel A. Vest, Jr., Professor of Urology, University of Virginia Medical School.

February 27, "Appendicitis", by Dr. John M. T. Finney, Jr., Associate in Surgery, The Johns Hopkins University School of Medicine.

February 28, "Influenza", by Dr. Thomas Francis, Jr., Professor of Bacteriology, Bellevue Medical School.

Through the grant of $175,000 from The Rockefeller Foundation, a department of Psychiatry and Mental Hygiene has been established at Duke University, to be operated beginning September 1, 1940, and the Highland Hospital, at Asheville, N. C. A gift to the University last year by Dr. Robert S. Carroll, will be used in connection with this department. Dr. Richard S. Lyman, now of the Phipps Psychiatric Clinic, Johns Hopkins University, has been appointed head of the new department.

Dr. Fred E. Hamlin,

Roanoke, was recently elected president of the Kiwanis Club of that city for the year 1940.

"The Foundation Prize".

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces that entries for "The Foundation Prize" of $150.00 must

be in the hands of the secretary before June 1. Eligible contestants shall include only interns, residents, or graduate students in obstetrics, gynecology, or abdominal surgery, and physicians who are actively practicing or teaching these specialties. Manuscripts must be limited to 5,000 words, and must be presented under a nom-de-plume, which shall in no way indicate the author's identity, with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of contestant. The successful candidate must appear in person to present his contribution at the annual meeting of the Association.

For further information, write Dr. James R. Bloss, secretary, 418 Eleventh Street, Huntington, W. Va.

Dr. Walter McMann,

Danville, announces the removal of his offices from the Masonic Temple Building to 944 Main Street, that city.

Drs. Garcin.

Dr. Ramon D. Garcin, Richmond, announces the association of his son, Dr. Ramon D. Garcin, Jr., who has been practicing internal medicine in Brooklyn, N. Y., for the past ten years. Their offices are at 2618 East Broad Street.

Dr. Garcin, Sr., was recently re-appointed on the Board of Directors of the Bank of Commerce and Trusts.

Neuropsychiatric Society of Virginia.

The annual meeting of this society was held in Richmond on February 7, with the president, Dr. Hugh C. Henry, Richmond, presiding. Dr. Winfred Overholser, superintendent of St. Elizabeth's Hospital, Washington, D. C., was the principal speaker, his subject being "Psychiatry and the Courts—Some Attitudes and Their Reasons". Others on the program were Drs. Joseph R. Blalock, J. B. Funkhouser, J. E. K. Flannagan, and J. E. Barrett, of Marion; and Dr. James B. Pettis, Staunton.

The following officers were elected: President, Dr. Thomas N. Spessard, Norfolk; vice-president, Dr. W. Gayle Crutchfield, Richmond; and secretary-treasurer, Dr. E. H. Williams, Richmond (re-elected).

Dr. Wilbur M. Bowman

Has been elected president of the Petersburg City Employees Federal Credit Union.

Dr. George H. Steuart,

Ottoman, has been elected a member of the Board of Supervisors of the Lancaster County Board of Agriculture.

Dr. A. S. Brinkley,

Richmond, was recently elected a vice-president of the Virginia Dahlia Society.

U. S. Census of Housing.

The kind of homes people live in, the medical profession has long recognized, is an important factor in the state of their health. Until now, however, adequate factual data on American housing conditions has been lacking. This need will be met in April, when the first U. S. Census of Housing takes place.

The projected questions which will probably produce the information of most interest to physicians concern water supply, toilet, bathing and heating facilities. The tabulated answers will show how many dwelling units in each community are without modern equipment for these purposes. Where there is a widespread lack, it can safely be assumed that the standard of living is low and the incidence of sickness will be high.

Number of rooms in each dwelling unit will be ascertained, and when correlated with number of persons in the household, will indicate whether there is overcrowding dangerous to health.

Other questions deal with occupancy, rentals and value, age of structure and need of major repairs, and mortgage characteristics of non-farm, owner-occupied structures containing not more than four dwelling units.

Dr. W. G. Lewis,

Medical College of Virginia, class of 1938, has located at Stokesdale, N. C., for the general practice of medicine.

Dr. Cullen Pitt,

Recently acting medical director of the Atlantic Life Insurance Company in Richmond, has just been elected medical director.

The American Association for the Study of Goiter

Announces that the Van Meter Prize Award of three hundred dollars will be made at their annual meeting in Rochester, Minn., on April 15-17. The essay is to be on original work on problems related

to the thyroid gland and may cover either clinical or research investigations. It shall not exceed 3,000 words, be typewritten, double-spaced, and a copy sent to the corresponding secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than March 15.

The program of the annual meeting will consist of papers dealing with goiter and other diseases of the thyroid gland; dry clinics conducted by guests of the Association; and operative clinics by the staff of the Mayo Clinic.

Dr. J. K. McGregor, Hamilton, Ontario, Canada, is president of the Association.

Dr. Kinloch Nelson,

Richmond, has been appointed chief of the medical staff of the City Home, a position held for several years by the late Dr. L. T. Price.

Appointments in National Guard.

Dr. L. E. Mayo, Jr., Portsmouth, and Dr. M. Robert Buckley, Richmond, have been commissioned as first lieutenants, Medical Corps, of the Virginia National Guard and assigned to the 111th Field Artillery.

Doctors Named Officers in Masonic Order.

Dr. William R. Weisiger, Richmond, was recently chosen grand junior warden and Dr. R. S. Griffith, Waynesboro, grand senior steward, of the Grand Lodge, Ancient Free and Accepted Masons of Virginia.

Dr. Karl S. Blackwell,

Richmond, was in February re-elected President of the Y. M. C. A. of this city for another term.

Gloucester Doctors Received Appointments.

Dr. H. A. Tabb of Gloucester has been named a member of the Board of Pension Commissioners of that County for the year 1940; and

Dr. J. D. Clements of Ordinary was appointed coroner for the remainder of the term which expires December 31, 1943.

Dr. Patrick H. Drewry, Jr.,

A native of Petersburg, has just completed a year's fellowship in psychiatry under the Rockefeller Foundation, and has located in Richmond, where he will be on full time duty at the Medical College of Virginia in the department of neuropsychiatry and will also be engaged in research work. Dr. Drewry, who is an alumnus of Johns Hopkins University, started his fellowship work in London but had to return to this country when war was declared and completed his course in Child Guidance work under Dr. Kanner in Baltimore.

Spring Graduate Course at Gill Memorial Hospital.

The fourteenth annual Spring Graduate Course of Gill Memorial Hospital, Roanoke, will be given from April 1 to 6. This includes lectures in ophthalmology, otology, rhinology, laryngology, faciomaxillary surgery, bronchoscopy and esophagoscopy. There are fifteen guest members of the faculty in addition to members of the hospital staff. Details as to the course may be obtained from the Superintendent of the hospital, Box 2467, Roanoke, Va.

Portraits of Virginia Medical Pioneers.

In this issue of the MONTHLY, Abbott Laboratories offers another in its series of Virginia Medical Pioneers, which is suitable for framing and hanging in doctors' offices. This will make an interesting collection and should be secured promptly.

Other advertisers are constantly making attractive offers. Why not look over the advertising pages each month and get better acquainted with those who are of material assistance in the publication of the MONTHLY?

Dr. M. Cohen,

Class of '31, Medical College of Virginia, who took special postgraduate work in Philadelphia and has for the past year been on the staff of the Parkland Hospital, Dallas, Texas, moved to Marlin, Texas, the middle of February, where he will be radiologist at the Torbett Clinic and Hospital.

The American Physicians' Art Association,

Composed of over eight hundred physicians in the United States, Canada and Hawaii, who follow some form of Fine or Applied Art as an avocation, will hold the next annual art show at the Belmont-Plaza Hotel, New York City, June 10 to 14, inclusive. This Exhibit is held in conjunction with the American Medical Association Convention to be held at the same time in the vicinity of the Belmont-Plaza. All physicians in active practice or retired who have an art hobby including photography are cordially invited to participate in the New York Exhibit.

To become a member of this Art Association a physician may join by mailing a check for one dollar to the Treasurer, Dr. R. W. Burlingame, San Fran-

cisco County Hospital, San Francisco, Calif., and briefly state what art medium the applicant follows.

For detailed information write to the Executive Secretary, Dr. F. H. Redewill, 526 Flood Bldg., San Francisco, Calif.

Dr. J. C. Coulter,

Charlottesville, at the last meeting of the Grand Encampment of the State of Virginia Independent Order of Odd Fellows, was installed as Grand Scribe. During the previous year he had been Grand Patriarch.

Married.

Dr. Edgar Willis Lacy, Jr., formerly of Richmond, and Miss Alma Covell Pancake, Romney, W. Va., January 20. Dr. Lacy is a graduate of the Medical College of Virginia in 1936. They will make their home in Pulaski.

The South Atlantic Association of Obstetricians and Gynecologists

Held its annual meeting in Richmond, February 9 and 10, under the presidency of Dr. Robert E. Seibels of Charleston, S. C. Speakers in the scientific sessions were Dr. Philip Williams, University of Pennsylvania; Dr. R. T. Ferguson, Charlotte, N. C.; Dr. J. R. Perdue, Miami, Fla.; Dr. R. B. Greenblatt, Augusta, Ga.; Dr. R. B. Dunn, Greensboro, N. C.; Dr. G. R. Holden, Jacksonville, Fla.; Dr. C. J. Andrews, Norfolk; and Dr. Arthur H. Curtis, Chicago.

Dr. M. Pierce Rucker, Richmond, was installed as president, and the following officers elected; president-elect, Dr. Rudolph A. Bartholomew, Atlanta, Ga.; and Dr. Robert A. Ross, Durham, N. C., secretary.

The Southeastern Surgical Congress

Will meet in Birmingham, Ala., on March 11-13, under the presidency of Dr. R. L. Sanders, Memphis. The program includes all phases of medicine with speakers of national prominence. Drs. C. J. Andrews, Norfolk, and Frank S. Johns, Richmond, are Virginians on the program.

Dr. B. T. Beasley, 701 Hurt Building, Atlanta, Ga., is secretary-treasurer of this Congress.

The Jefferson Medical College of Philadelphia.

The William Potter Memorial Lecture was delivered by Dr. Irvin Abell, Clinical Professor of Surgery, University of Louisville School of Medicine, on February 14, his subject being "The Spirit of Medicine".

The American Board of Internal Medicine

Will conduct oral examinations just previous to the meeting of the American College of Physicians in Cleveland and just in advance of the meeting of the American Medical Association in New York City.

Applicants who have successfully passed the written examination and plan to take the oral examination in 1940, should advise the office of the Secretary at least six weeks in advance of the date of the examination they desire to take.

The next written examination for 1940 will be given on October 21. Applications for this examination must be filed in the Secretary's office by September 1.

Application forms may be obtained from Dr. William S. Middleton, Secretary-Treasurer, 1301 University Avenue, Madison, Wisconsin.

For Sale—

One Alpine Sun Ultra-Violet lamp, Standard Office Model, first class condition. Also

One McCaskey Physician's desk and filing system. Practically new.

Write No. 175, care the MONTHLY. (*Adv.*)

Position Wanted

By Laboratory technician thoroughly trained in all laboratory procedures. Location immaterial. Write "Technician", care the MONTHLY. (*Adv.*)

Obituary Record

Resolutions on Dr. Harvie Smith Baker.

With deep sorrow, the Norfolk County Medical Society records the death, on December 26, 1939, of its president, Dr. Harvie Smith Baker.

Dr. Baker was born on September 30, 1878, in Nansemond County, Virginia. His academic education was received in Suffolk Military Academy and in Randolph-Macon College, following which he attended the Medical College of Virginia, from which he was graduated in 1904. During 1904 and 1905 he served as house physician in the Norfolk Protestant Hospital. Later, for several years, in association with Drs. Lomax Gwathmey and Kirkland Ruffin, he served in a similar capacity in St. Christopher's Hospital.

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During the more than thirty years he was engaged in the very active practice of general medicine and surgery, Dr. Baker found time to keep well informed regarding the progress of medical science and was regarded as a leader in his profession in this locality.

He was especially interested in the diseases of the chest, and for ten years was an active member of the staff of the Norfolk Anti-Tuberculosis Clinic. He was also a member of the staffs of the Norfolk General and Leigh Memorial Hospitals.

His life was one of sacrifice, and only his intimate friends were aware of the real sweetness and kindliness of his nature, which, because of timidity, he hid behind an abrupt and bluff manner. To those who penetrated this apparently rough exterior, he exhibited a generosity and loyalty that bound to him a host of friends who are grief stricken because of his death.

He was an indefatigable worker, ministering to all who sought relief at his hands, persistently refusing to take the rest and relaxation he so urgently needed. His records are eloquent, with the frequent notation "No charge".

Notwithstanding increasing physical disability, he continued his work until within a few weeks of his death. Very few, even among his intimate friends, were aware of the seriousness of his condition; hence, his death greatly shocked the whole community.

Because of the great loss to this Society, both individually and as a whole, we therefore resolve that this brief expression of our appreciation of Dr. Baker's life be incorporated in the records of the Society, and a copy be sent to Mrs. Baker, and one to the VIRGINIA MEDICAL MONTHLY.

WILLIAM P. SELLERS,
FRANKLIN D. WILSON,
N. G. WILSON, *Chairman.*

Resolutions on Dr. J. Jett McCormick.

Since God in His wisdom has removed from our midst our friend and fellow practitioner, Dr. J. Jett McCormick

BE IT RESOLVED, that the membership of the Norfolk County Medical Society desire to express the sense of the loss of one of their highly esteemed and greatly respected members. Twenty years ago—due to ill health—Dr. McCormick retired from active practice; before this time he did conspicuous service as city chemist, and the purity of Norfolk's water supply was due to his watchful attention in that department. He was also active in other departments of the Board of Health demanding his skill. He will always be remembered for his unswerving loyalty to his profession, his faithful service to a very large clientele—by whom he was greatly beloved, and by those of us who knew him for his kindly disposition, his sterling character and his faithful performance of duty. The Norfolk County Medical Society mourns his loss and joins his host of friends in sympathy with his family.

BE IT FURTHER RESOLVED, that a copy of this resolution be conveyed to Mrs. McCormick, spread on the minutes of the Society, and a copy sent for publication in the press.

H. L. MYERS,
J. WARREN WHITE,
W. ARTHUR PORTER.

Dr. William David Haggard,

Nationally known surgeon of Nashville, Tenn., died January 28 following a heart attack. He was sixty-seven years of age and a graduate of medicine from the University of Tennessee in 1893. Dr. Haggard served as president of every medical organization to which he belonged, among them being the American Medical Association, the Postgraduate Medical Assembly of North America, and the American College of Surgeons. While president of the American Medical Association, he sponsored the "have-a-health-examination-on-your-birthday" movement which won international notice. In the World War, Dr. Haggard served as a major and later as lieutenant-colonel and saw service both in Washington in the office of the surgeon-general and in France as a surgeon. His wife and two sons survive him.

Dr. Joseph Dandridge Terry,

Burkeville, died February 17, of pneumonia though he had been in ill health for several years. He was sixty-six years of age and a graduate of the Medical College of Virginia in 1905. Dr. Terry practiced for a number of years at Rice before locating at Burkeville. His wife, a daughter and two sons, one of them Dr. William Parker Terry of Lawrenceville, survive him.

Dr. William James Innes,

Formerly of Pennington Gap, died February 10. He was a native of England and seventy-five years of age. Dr. Innes was a graduate of the former University College of Medicine, Richmond, in 1901, and practiced in this city for a number of years before going to Pennington Gap. He was formerly a member of the Medical Society of Virginia.

Dr. John Selden Richardson,

Of Holly Fork, New Kent County, died February 6. He was seventy years of age and a graduate of Columbia University, College of Physicians and Surgeons, New York, in 1893. Dr. Richardson practiced for more than thirty years in New York but returned to Virginia when he retired a couple of years ago.

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